

670	27364	92836	09428	61208	74982	36498	32764	81276	01
4986	40932	70987	32123	49817	26346	81287	65491	87364	81
721	75654	55656	12737	72727	72727	91918	63473	67867	70
723	87629	37677	32612	53498	71296	28756	18276	98716	87
7269	76329	74698	76857	98670	27601	56701	57601	73648	15
591	87364	87265	96710	27630	12673	84769	28743	98127	50
58	63298	75698	27465	87326	49876	28376	81273	98615	62
667	87432	74328	78674	29867	32867	67867	86786	43286	432
667	68768	68763	34234	34238	68768	62342	48273	48768	234
936	98432	32432	86743	43286	43286	43286	43286	43286	432
743	86743	86743	39867	32867	86743	43286	43286	43243	867
741	86743	86743	86743	86743	86743	86743	86743	86743	435
543	98798	98754	98754	98754	98754	29867	67543	67986	867
76	87698	69876	87698	69876	87612	12341	34867	86798	632
667	43298	65656	56756	56123	32143	14321	32143	14321	321
71	02787	58765	76587	58765	76587	58765	76587	58756	765
75476	76543	58765	36543	58765	36543	58765	36543	58765	587

# Numbers & Oddities

## a.k.a. The Spooks Newsletter

*Edition #192, September 2013*

Editor: Ary Boender email: [ary@luna.nl](mailto:ary@luna.nl)

Check for previous newsletters, info, sound samples and databases also:

**NUMBERS & ODDITIES** <http://www.numbersoddities.nl>

**SPY NUMBERS ONLINE DATABASE** <http://www.spynumbers.com/numbersDB>

**UTILITY DXERS FORUM (UDXF)** <http://www.udxf.nl>

**START PAGE** <http://home.luna.nl/~ary>

Hi everyone. Welcome to the 192<sup>nd</sup> edition of *Numbers & Oddities*. This month you will find a lot of EAMs which I normally do not include here but after a few questions about these US “numbers” stations and the fact that Dave sent many logs this month, I decided that I should add them to N&O.

Tony, Peter, Wolfgang, Tom, JPL and several other dxers provided an enormous amount of Russian military logs and transcripts. I tried to include them all in appendices after the Logs Section.

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## **VOICE STATIONS**



**G06**

**5442 kHz, 13-09, 1930 UTC**

947 947 947 852 852 15 15  
66281 02881 27932 07381 20312 88398 93728 64532 02877 09833  
93361 72312 22389 01621 21882  
852 852 15 15 00000

---



### **S28 - The Buzzer**

**Mode: USB**  
**Frequency: 4625 kHz**

23-09, 0555 UTC: MDZhB 18 732 PLUTOVATYJ 77 75 54 46 Prijom  
23-09, 0558 UTC: MDZhB 86 714 FLINTGLAS 47 46 90 10 Prijom  
23-09, 0657 UTC: MDZhB 88 795 INTUICIJa 03 50 89 14 Prijom

Kosanderi stated at Radioscanner that the S28 transmitters are located in three sites around Moscow - check Google Earth for the following locations:

55°17'00"N 37°33'50"E  
56°06'28"N 37°33'30"E  
55°51'12"N 37°55'41"E

All three facilities look alive. Seven red and white towers at the southern site are designed to suspend the vertical curtain HF antennas: three curtains are beamed to 260 degrees (Europe), other three curtains are beamed to 190 degrees (Middle East, North Africa). At all sites there are many poles for the horizontal dipoles. Each station can run the Buzzer: a 20 kW transmitter with a VGD or VGDSH type dipole.

Could someone in that area check if they are really transmitting from that location?

An interesting recording was sent to me by FYM. The recording clearly shows that there are two transmitters on the air at times.

See also the M32 section for morse transmissions to MDZhB.

---



## V07

**16037 kHz, 08-09, 0300 UTC:** 661 661 661 000

**16037 kHz, 15-09, 0300 UTC:** 661 661 661 000

**14637 kHz, 22-09, 0320 UTC:**

661 661 661 1 661 661 661 1 661 661 661 1 661 661 661 1 661 661 661 1  
254 67 254 67

94005 92277 83402 32187 53252 10550 59307 23513 8?730 18731

82300 87352 23345 53023 97371 52805 89793 92531 93053 00223

83033 93083 33330 05331 03274 77812 83385 30441 87377 9312?

14372 49524 37109 43941 28798 79828 58000 72314 94070 55037

72838 05340 13087 59092 14137 53437 32845 13319 03738 55293

89952 70789 80070 53724 55775 91417 07939 45003 51432 59125

3971? 45343 10?38 03202 29331 43374 93223

000 000

**16037 kHz, 23-09, 0300 UTC:** 661 661 661 1 254 67 94005 92277 83402 ... 29331 43374 93223 000 000

**12137 kHz, 23-09, 0340 UTC:** 661 661 661 1 254 67 94005 92277 83402 ... 29331 43374 93223 000 000

Dan comments: "Interesting to note that they don't use number 6 (six) in messages. Despite I lost some number due to bad reception; I never found number six in all messages logged."

---



## ***V13 - New Star Broadcasting Station***

### **星星廣播電台 Xīngxīng guǎngbò diàntái**

#### **Current schedules**

Station #3: 13750 kHz, 0500 and 0600 UTC

Station #4: 15388 kHz, 0700 and 0800 UTC

Station #4: 13750 kHz, 1200 and 1300 UTC

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## ***VC01 - Chinese Robot***

### **Chinese Air Defense**

**Modes: USB and LSB**

The station changes its frequencies frequently. Known frequencies:

3036, 3749, 3837, 4075, 4258, 4343, 4410, 4422, 4427, 4480, 4530, 4580, 4726.5, 5195, 5232, 5288, 5303, 5328, 5330, 5393, 5592, 5700, 5742, 5802, 5832, 5892, 6209, 6479, 6771, 6840, 6858, 6860, 6949, 6960, 7090, 7351, 7608, 7684, 7726, 7739, 7744, 7756, 7770, 7792, 7864, 7865, 7880, 7890, 7924, 7938, 8000, 8025, 8170, 9000, 9169, 9192, 9290, 9340, 10508 kHz.

VC01 1-9-2013 1340 4726.5 Chinese Robot LSB

VC01 1-9-2013 1340 5892 Chinese Robot LSB

---

## MORSE STATIONS



### **MX** **Russian Military beacons**

#### **Current cluster frequencies:**

3594, 4558, 5154, 7039, 8495, 10872, 13528, 16332, 20048 kHz

#### **Other frequencies:**

L 6917.5, 8497.8 kHz

V 3658, 4150, 6809, 6928, 7027.5 kHz

R 5466 kHz (seldom reported these days)

W 5835, 8112, 8162 kHz (Air Force)

#### **Cluster beacon slots:**

.7 "D", Sevastopol

.8 "P", Kaliningrad

.9 "S", Severomorsk

.0 "C", Moscow

.1 "A", Astrakhan

.2 "F", Vladivostok

.3 "K", Petropavlovsk Kamchatskiy

.4 "M", Magadan

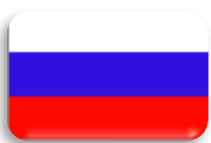
Reported beacons and channel markers.

European Cluster Beacons: D, P, S, C, A, L

Asian Cluster Beacons: F, K, M

Channel markers:

V – 4506, 6928 kHz



### **M01**

#### **M01b, 5940 kHz, 11-09, 1505 UTC**

159 194 30 =

42275 51828 87454 01713 93905 02853 01086 80089 42728 61452

14329 06514 15535 99209 61582 58297 81651 79299 41100 93126

49171 05512 64435 50706 89617 31677 97741 47700 77233 71087

= 194 30 000

**M01a, 4620 kHz, 25-09, 1715 UTC:** 243 243 243 84372 84372

243 243 243 83612 83612

#### **M01, 6978 kHz, 30-09, 1642 UTC, in progress**

738 732 88 732 88 738 738 738 732 88

111 04001

738 738 738 333 12 333 12 33 12

05002

333 730 79 730 79 333 730 79 730 79 333 730 79

111 333 26 333 26 333 26 333 26 111 000

**M01a, 4620 kHz, 25-09, 1715 UTC:** 243 243 243 84372 84372

243 243 243 83612 83612

**M01a, 3826 kHz, 26-09, 1800 UTC:** 842 842 842 98400 98400

**M01a, 3826 kHz, 26-09, 1806 UTC:** 842 842 842 98828 98828

**M01a, 7811 kHz, 30-09, 1650 UTC:** 472 472 472 21588 21588

333 333 333 21947 21947

333 333 333 21792 21792

M01a, 7811 kHz, 30-09, 1700 UTC: 472 472 472 20395 20395

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**M08a**  
**Dirección General de Inteligencia**

date	day	UTC	Freq	remarks
3-9-2013	Tue	2005	7554	cut nbr grps in CW and then the tape messes up and is uncopy.
3-9-2013	Tue	2257	8135	IIGDN GANWA ADRGN
4-9-2013	Wed	1356	8097	xmtr tuned at 1356. IWTTA WAGUA RUDRA cut nbrs in CW at 1357
4-9-2013	Wed	2259	8009	vy wk cut nbrs in CW
5-9-2013		1416	8097	tuned xmtr at 1343. No tfc
7-9-2013	Sat	1755	11635	Xmtr tuned 1755. Carrier off & sounds like vy wk CW but uncopy
21-9-2013	Sat	1422	8097	Cut nbrs in CW
23-9-2013	Mon	2306	8009	Cut nbrs in CW
25-9-2013	Wed	1405	8097	Cut nbrs in CW. Off frequency
30-9-2013	Mon	1810	11635	HM01 and M08a both going at same time 56801 replaced 83381 other grps same as before.
30-9-2013	Mon	2200	10715	They running HM01 and M08a at same time again

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**M21 + variants**  
**Russian Air Defence Forces**  
**Boйcka ПBO Voyska PVO**

Id 0: 5202, 5806

Id 8: 4627, 4904, 6911.5

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**M23**

**1700 UTC schedule**

5921//16136 kHz, 13-09, 1710 UTC: i.p. 333 repeated

5921//16136 kHz, 15-09, 1707 UTC: i.p. 333 (rptd) ends at 1716 with a long dash

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## **M32**

### **Russian/CIS/Ukrainian**

### **Military CW Stations**

5096 kHz, 01-09, 1333 UTC: XXX XXX MDVB MDVB 94065 KAL'UTA 9279 4162 (1334z)  
 5096 kHz, 01-09, 1335 UTC: XXX XXX MDVB MDVB 43449 GALX'AN 5437 7452 K (1335z)  
 5096 kHz, 01-09, 1403 UTC: VVV  
 5096 kHz, 01-09, 1406UTC: XXX XXX MDVB MDVB 24739 WALXKE RIT 8221 5630 (1405z)

Note:

MDVB is also called by the Buzzer. The morse V is actually the Russian letter Zh in this callsign (same morse character). MDVB is the same as MDZhB.



## **M89**

### **Chinese military**

#### **Stations and strings:**

VVV Q2M Q2M Q2M DE NYZ NYZ  
 V 7NPE 7NPE 7NPE DE QV5B QV5B  
 V DKG6 DKG6 DKG6 DE 3A7D 3A7D  
 V GKVZ GKVZ GKVZ DE Q7NW Q7NW  
 V RXP7 RXP7 RXP7 DE CZT2 CZT2  
 V H2FL H2FL H2FL DE DRV8 DRV8  
 V WITN WITN WITN DE GNXG GNXG  
 V JF3M JF3M JF3M DE LG5P LG5P

FBRY DE 8JUJ  
 HNP7 DE 8JUJ  
 GN8Z DE 8JUJ  
 8JUJ DE 8JFU  
 IKRE  
 7KPZ  
 8KPM

**5555 kHz, 09-09, 1107 UTC:**

GA  
 58 5 EEE VVV 1234 =  
 DE. DT73 8DE 6/091 EEEE/Z42/1957 4417 4897 NR 0215/G378 QS  
 /19E 16 = = 7374/0530/G37/1951 AR  
 AR AR 73 GB/0530/G37 NR 1000 .GT .. = 791. 2.95712 19517364/112 AR K  
 05W3 GIM7 15971 73744//105 30/.7/19.1 AR K

**3330 kHz, 10-09, 1626 UTC, i.p.**

D535 TN37 TD57 D4D5 DU7U 7TUT (Cont'd)  
 III = DN4U AR

**11321 kHz, 10-09, 0148 UTC, i.p.**

NNU5 6UTD UD46 NT5N (Cont'd)

**5500 kHz, 09-09, 1054 UTC, i.p.**

/1925/7 U EEEEE  
 UVVV UGT COMM BT 7124/1925/Z2 EEEEE AGN  
 VV UGT COMM BT 7124/1925/Z34/1951 AR  
 VV UGT COMM BT 7124/1925/Z34/1951 AR  
 VV UGT COMM BT 7124/1925/Z34/1951 AR

**5555 kHz, 10-09, 1938 UTC:**

TTU7 576A 54DU 76TA 6474 6457 6T47 (Cont'd)  
 AR K K SK

**7582 kHz, 07-09, 0805 UTC, i.p.**

NR EE NR U NR EE NR 1 /1001/EX EE NR

**6666 kHz, 07-09, 1541 UTC:**

R = = = U65T TU5A 4U57 63D7 TA6T U343 N3NU 6T6A TA73 TT3T DT47  
 (Cont'd)  
 IIIIIII = = 34D4 56TD 5443 ANUD 6UA5 DT5A T757 (Cont'd)  
 AR AR  
 R R = 4643 AR K  
 R AS AS  
 K K K  
 QSL 2 K  
 R R  
 G QSY EEEE U .. GA K  
 AS AS GA GA AS

**5555 kHz, 08-09, 1703 UTC, i.p.**

NR 13.. K  
 UNG V6363 5D6EN. NDU IMETT3D4  
 A5AT 6NA4 TTTTTTTT D44T 4E3.. (Cont'd – handsent – horrible CW)  
 66... T ...  
 GEAS ... 36DUN6 46NTD ... (Cont'd)  
 IIII U6N3 5TAA U464 U75.. (Cont'd)  
 III 7U5. 7.7 D7356U DA6N 5363 575N 4N.. (Cont'd)  
 II II 45N5 A3? 53N7 5N46 N7D4 ? 5T7D U734 (Cont'd)

**14862 kHz, 05-09, 1012 UTC:**

AR  
RPT  
BT 65 EEEE ...  
BT NADD NADD  
RPT ..  
QSL  
MSG GA NR 408 5. 22 0905 1800 =  
7N45 .T. D7UD 5543 N5AU U7DN 633A ? ..3A TTA3 (Cont'd)  
AR K  
= 633 EEEEE BT TTU3 TTU3  
RAKT 25W  
RPT 31W  
32W 32W  
62W 62W  
R QSL ...  
MSG GA NR 409 CK 9. .. 0905 1800 = =  
4NT3 UNA. 66AU. (Cont'd)  
AR K  
BT A374 A374  
BT D557 D557  
BT 5TN4 5TN4  
RPT ... K  
RPT 1.W 16W  
RPT 47W 47W  
RPT 49 EEE RPT 49W 49W  
RPT 64W 64W 65W 65W  
QSL  
MSG GA NR 410 CK 91 33 0905 1800 =  
7N4U A.4D 5475 N6AA A..N TU33 66AD 77U7 AUAT TTAT U4D4 (Cont'd)  
AR K  
QSL  
MSG GA NR 411 CK 91 33 0905 1800 =  
66NN 73A3 NA5U NNNA A56N 6U3U 4T3A 5T75 AU4A TT3D 3T3A (Cont'd)  
AR K  
R = 577D 577D  
= DA54 DA54  
RPT 38W 38W  
R RPT 53W 53W  
RPT 53W 53W  
R QSL  
MSG GA NR 412 CK 51 22 0905 1800 =  
U5U. .5N4 6736 N7UN 436N 5NU7 D5AD U5N6 NNNN TTUT 7U43 (Cont'd)  
AR K  
SK

(The message format – sending GA before NR suggests that this station belongs to the GNXG family. GNXG has recently ceased to be active and I believe has been replaced by ASDF - JPL)

**10376 kHz, 24-09, 1237 UTC:**

VV GNN. DE 8JUJ K  
VV HR G EEE HR MSG GA K  
GA GA  
HR MSG GA K  
MSG D4T AM NR 009/EX CK 99 7. 0.24 2025 RMKS CQ K  
GA R =  
DU65 N653 6536 N.. (Cont'd)  
AR  
RPT .... K (Very weak)  
RPT PBL K  
R R RPT 38W = 36DD 36DD AR K  
RPT 3.. K  
= 39W T EEE RRPT 39W TO 42W = A.3D 36D6 T64D EEE T63D 6NTN AR K  
R RPT 72W = = DN56 DN56 AR K  
RPT 89W = 36DN 36DN AR K  
AS VV VV AS AS

**14778 kHz, 12-09, 1038 UTC**

= A3T4  
= A3T4  
= UUUT  
= 4TD5 5DNA  
= AAA7 (1039z - Silent)  
98DFM 3TE (1043z)  
08.TO 09V  
17  
50 TO L1  
5.  
QSL (1044z)  
MSG NR 4.1 CK 91 33 .912 1000 =  
U6UT D56D NND7 D445 UAU5 DD4. N... (Cont'd) AR  
= 45D6  
= 4NT6  
= NT45  
= 7ADD  
= AT73  
73 SK USB (1056z – Shifted to voice)

**5555 kHz, 23-09, 2025 UTC:**

MSG CK MSG CK TOSG CY .GCY AA  
MSG ... AD63 .. MUD73 647NA3 6D (Cont'd)  
FM 73ADD FM 66D7DA3DD 3D4NRPT 9.. 7908..  
9..I66..C8.888 .6888888 PBL (2026z - Silent)

**10376 kHz, 23-09,1237 UTC:**

VV FBRY DE 8JUJ K  
VV J4.. DE 8JUJ K  
(Outstations on this frequency, but very weak)  
R QSA 2 K  
VV HNP7 DE 8JUJ K  
QSA 2 K  
VV GN8Z DE 8JUJ K  
R QSA 1 AS  
VV 8.V.  
VV 8JUJ DE 8JFU K  
VV ... DE 8JUJ K  
.. HR .. GA  
Hr MSG NR 0 ./EX CK 99 57 EEEE  
NR 007/EX CK 99 58 ONU3.TU5 EEE RMKS CQ =  
UDD3 7NN7 4DD5 4 ? BT  
UDD3 7NN7 4DD5 NU3U T73U 6D65 46UN AD75 36AD D53U UA5A (Cont'd)  
AR  
.... DE 8JUJ K )(Signal fading – mostly unreadable)

**6666 kHz, 30-09, 1714 TC:**

R R HR E GA  
R EE NR .4/XT 114 RMKS 3032 TO .2.2 K  
= XTI 3./R Q1A AR K  
UGT K  
QSL .117 K  
HR MSG GA K  
R MSG NR 04 CK 115 77 0930 0... RMKS 3032 TO 9212 K  
MSG NR 04 CK 115 77 0930 0100 RMKS 3032 TO 9212 K  
= =  
4A.3 576A 37NA D736 344U 644T 5743 NUA. T. K  
AGN R R R R =  
4AU3 576A 37NA D736 344U 654T 5743 NUA5 TA6U TTT3 4D3D (Cont'd)  
TA6U TTT4 N5D. UTN3 7A7A D3? 3DU4 T537 AR K  
R SK Z EEEE SK GB

**10376 kHz, 28-09, 1231 UTC:**

.... DE IKRE OK QSA 1 QSA ? K (unsure of this callsign)  
 R HR WK NR 27 K  
 VV F. DE 8JUJ .. (calling stations one by one but mostly unreadable)  
 ... 25 K  
 VVV

**5555 kHz, 29-09, 1215 UTC:**

7U43 5NUD 7NT6 A435 T3DN 56U7 A456 (Cont'd )  
 EEEE TD EEEE ?

**10376 kHz, 29-09, 1225 UTC:**

VV VV VV VV ... K R K  
 VV 2 K (All stations too weak to copy)  
 R 7KPZ DE ..R0 R QSA 1 QSA ? K (last character of the station sending is zero)  
 R  
 11 4. AR K  
 NIL TU  
 R HR WK ... K  
 R HR WK NR 12 K  
 VV .... QSA 2 QSA  
 VV 62 AR K R K  
 R HR WK NR 31 K  
 8KPM DE .... QSA 1 QSA ? K  
 FB R. R.. EEE U NIL ..

**10210 kHz, 30-09, 0835 UTC, i.p.**

NR ... 1630 RMKS ..30 ... 453 =  
 COMM/.7.5. LZ/ 4013/9106/2458 AR AGN  
 NR 178 1630 RMKS 91.30 TO 2458 TO .453 =  
 COMM/1715/LZ3 4013.8.6/14.AR QSL ?  
 MSG GA NR ... /CCK CK 91 73 093. 630 RMKS .10. TO 2333 /..3374 3740 =  
 N474T3 (Cont'd )  
 AR QSL? HR WKR NR 13  
 V HR MSG GA NR 090/CCK CK 51 39 .930 1640 RMKS ..910. TO 9853 9852  
 9807  
 9802 9801 9279 2721 =  
 DTAU TT3D 734A A? 4AUN TU3U 7TA3 4A7U T6.T TAU3 .UAN TNU5 N6T3  
 UDD4 (Cont'd)  
 AR QSL ? HR WK NR 13

**5588 kHz, 30-09, 0902 UTC: In traffic, mostly unreadable**

III = .... AR  
 MSG NR 1.9 CK 3. 34 30 .. =..... (Cont'd) III = ...

## VARIOUS MODES

**HM01****Dirección General de Inteligencia**

A special thanks to Don Schimmel for his daily report and to Hugh, Steve and all other dxers for their logs.

**Notes from Don Schimmel:**

Today the announced groups flip-flopped from 58118 to 56801 back to 59118. You will note from this that they have gone back to the procedure of changing the 5th digit of each group one-up like they did earlier (12 Sept.).

The one-up increase in the 5th digit of the announced groups appears to be taking place on the 1600 Sked on 11435 kHz. Although I was unable to cover that sked on Friday, I'll bet it happened on the 1600 sked on that day also. I wonder why that time was selected for the change? One would think it would take place either on the first sked of the day or the last sked of the day??

**Note from Hugh Stegman:**

11635 kHz, 20-09, 2100 UTC:  
 2057 carrier up on 11635.  
 2100 circuit noise increases  
 2102 voice comes up in progress, rptd preamble 83381 22574 15441 50182 08444 51835  
 2107 RDFT tuning tones, then alt voice & RDFT  
 2115 rptd same preamble  
 2119 RDFT tuning tones, then alt voice & RDFT [very low QRM or crosstalk - female singing voice]  
 2151 rptd same preamble  
 2154 RDFT tuning tones, then alt voice & RDFT  
 2156 cut program, drop carrier

Sometime after 2156: carrier up on 10715

2200 program comes up in progress with alt voice & RDFT, NO preamble  
 2226 rpt preamble 83381 22574 15441 50182 08444 51835



2230 RDFT tuning tones, then alt voice & RDFT  
2256 program cut, drop carrier

So what we have is a completely strange 2100 slot, then 2200 coming up about where 11635 would be had it still been on, but then running it right up until the usual time where the "old format" would stop and repeat the whole program. After that, everything was like what we're used to.

The noise on the carrier is weird. It is NOT power supply hum. It sounds more like crosstalk. Several times in the 2100 slot a female singing voice could be heard using a classical style vibrato. The rest of the time, it sounds like a program being rolled off around 100 Hz.

#### Steve comments on the 20<sup>th</sup>:

If you hear the singing again you might try checking both RHC's frequencies (for all languages) and also Radio Rebelde's shortwave frequencies and you might find a match to the singing or bleed thru you are hearing. In the past I have heard not only bleed thru but even the wrong shortwave program patched through on HM-01's frequency. It is my opinion that the same facility that broadcasts HM-01 also handles some of the Cuban shortwave broadcasts.

As to the new format, I have heard several variation in the last two days. In none of them have I heard the traditional opening preamble when they sign in, it has been opening with RDFT alternating with single five digit number in voice. In one version I noted the sign on was with alternating RDFT and a single five digit number voice this lasted until 1713:10 GMT when it went into a 3 minute 27 second preamble. Then at 1416:37 back into RDFT alternating with a single five digit number until 1748:25 when the RDFT ends and three seconds later the preamble begins and lasts for 3 minutes 27 seconds until 1751:55 when it goes back into the alternating RDFT/voice until sign off at 1759:37. Version two is similar o the 2200 broadcast to which I tuned in late at 2222 with RDFT alternating voice until 2249 when there is the preamble which lasts until about 2253 followed by about three minutes of alternating RDFT/voice. A third version was heard today at the 1000 broadcast on 5855 // 9155. I tuned in late but at 1023 alternating RDFT with voice followed by RDFT ending at 1034:40 and three seconds later the preamble begins and lasts for 3 minutes 28 seconds until 1038:11 GMT at which time the alternating RDFT voice is back and lasts until 1055:25 sign off.

At this point although I think we are dealing with a format change for HM-01, you can't rule out some sort of goof up in how the transmitter facility is handling HM-01's broadcasts. Only time will tell.

#### Note from Ary:

Most likely this is not a new format but just another mistake from our Cuban friends.

## M42 & X06



**Modes:**  
Various digital modes, CW,  
Tones (Мазелка / Mazielka)

## Russian Government & Intelligence



Daniel reported many FSK 200/1000 messages and mailed transcripts of most transmissions.

#### 16320 kHz, 10-09, 0150, FSK 200/1000

Link ID 13366 Msg Number 099 Msg Type 13366: 17251 00000 57344 03409 15375 16703 02139 63999  
Link ID 65535 Msg Number 255 Msg Type 13567: 17407 04095 65535 65535 65535 65535 65535 65535  
Link ID 13374 Msg Number 103 Msg Type 13366: 17251 00000 00000 03441 31755 17209 02393 63997  
Link ID 13366 Msg Number 099 Msg Type 12310: 16995 00000 00000 03409 15371 16697 02137 63997  
Link ID 13360 Msg Number 097 Msg Type 13366: 17251 00000 08192 03328 07179 00313 02137 63997  
Link ID 41018 Msg Number 010 Msg Type 07145: 32768 62292 17161 02616 21686 03792 03609 16311

Link ID 41019 Msg Number 014 Msg Type 07145: 32768 63316 25355 02616 21695 03825 03643 16383  
 Link ID 41135 Msg Number 139 Msg Type 21498: 17342 14340 16972 36851 48216 61588 14166 14401  
 Link ID 62529 Msg Number 072 Msg Type 33166: 64154 49715 50204 37571 53736 17474 55313 46095  
 Link ID 41018 Msg Number 010 Msg Type 16107: 36880 63476 17161 02616 21686 03792 03609 16311  
 Link ID 41018 Msg Number 010 Msg Type 07145: 32768 65364 17161 02616 24062 04089 04027 32767

#### **16320 kHz, 11-09, 0150 UTC, FSK 200/1000**

Link ID 13366 Msg Number 000 Msg Type 13366: 24576 04096 00000 01852 15371 03468 00000 14383  
 Link ID 05375 Msg Number 255 Msg Type 13366: 16512 00000 02047 04095 65135 64959 62463 61695  
 Link ID 41022 Msg Number 015 Msg Type 07145: 32768 13186 57679 31212 21686 03322 63582 50263  
 Link ID 41471 Msg Number 159 Msg Type 07145: 32768 13187 59759 32254 30459 36597 64679 59043  
 Link ID 41018 Msg Number 015 Msg Type 07145: 32768 13186 57675 63972 21668 03314 63566 18000  
 Link ID 32125 Msg Number 193 Msg Type 23548: 05107 04352 59152 03827 42824 33808 01191 20275

#### **16320 kHz, 12-09, 0150 UTC, FSK 200/1000**

Link ID 05172 Msg Number 000 Msg Type 13876: 24577 02050 00000 00313 14273 04014 00000 12624  
 Link ID 26879 Msg Number 254 Msg Type 12272: 62688 39239 05629 39294 62569 61865 30207 65208  
 Link ID 41086 Msg Number 061 Msg Type 07145: 32768 11424 58111 13182 21686 03125 28401 09023  
 Link ID 22677 Msg Type 05364: 49160 48344 55799 04255 08795 34450 14328 04503  
 Link ID 57642 Msg Number 020 Msg Type 07147: 32784 11761 57599 28734 62655 35895 28408 25535  
 Link ID 25774 Msg Number 222 Msg Type 08946: 62688 39415 05300 38974 13419 45483 13823 65273  
 Link ID 41138 Msg Number 052 Msg Type 15337: 32768 11426 58111 12654 21686 03125 28400 09023

#### **16320 kHz, 13-09, 0150 UTC, FSK 200/1000**

Link ID 04114 Msg Number 000 Msg Type 45584: 57344 00000 00000 00020 07179 03468 00000 14382  
 Link ID 13366 Msg Number 000 Msg Type 13366: 16384 00000 00001 01852 15371 15756 00000 14382  
 Link ID 13366 Msg Number 000 Msg Type 13366: 16384 00000 00000 01852 15371 03468 00000 14382  
 Link ID 41018 Msg Number 025 Msg Type 07145: 32768 16566 08903 31121 21638 02820 22529 10400  
 Link ID 41018 Msg Number 025 Msg Type 07145: 32768 16566 08903 31121 21684 02820 22917 11682

#### **16320 kHz, 16-09, 0150 UTC, FSK 200/1000**

Link ID 13844 Msg Number 000 Msg Type 13876: 24576 00000 00000 00025 14273 36782 00000 12624  
 Link ID 61503 Msg Number 159 Msg Type 07136: 32772 23565 65527 38848 21686 03656 31631 42562  
 Link ID 61543 Msg Number 045 Msg Type 31721: 36864 64571 64732 03096 43373 00401 62990 19845  
 Link ID 41018 Msg Number 030 Msg Type 07145: 32768 23609 32358 01664 21670 07752 31631 46594  
 Link ID 41018 Msg Number 030 Msg Type 07145: 45056 31801 32358 01664 21686 03656 31631 42562

#### **16320 kHz, 17-09, 0150 UTC, FSK 200/1000**

Link ID 29718 Msg Number 000 Msg Type 13366: 16384 00000 00000 01852 15371 03212 00000 14382  
 Link ID 13366 Msg Number 000 Msg Type 13366: 16384 00000 00000 01852 15371 03468 00000 14382  
 Link ID 13366 Msg Number 000 Msg Type 13366: 16384 00000 00000 01852 15360 03464 00000 14350  
 Link ID 13366 Msg Number 000 Msg Type 05174: 16384 00000 00000 01852 15371 03468 00000 14382  
 Link ID 41018 Msg Number 035 Msg Type 03041: 00000 46784 10621 33457 21686 00806 59617 19451  
 Link ID 58359 Msg Number 255 Msg Type 07297: 25863 07158 10209 35727 52448 02111 63536 64096  
 Link ID 41018 Msg Number 035 Msg Type 07145: 32768 46784 10621 33457 21654 00806 59617 16635  
 Link ID 41018 Msg Number 035 Msg Type 07145: 32768 46784 10621 33457 20662 00806 59617 01019  
 Link ID 41016 Msg Number 001 Msg Type 07145: 32768 46784 10556 32912 00182 00294 26849 03067

#### **16320 kHz, 17-09, 0150 UTC, FSK 200/1000**

Link ID 13884 Msg Number 000 Msg Type 13876: 24576 00000 00001 00123 32705 04014 00000 29008  
 Link ID 41016 Msg Number 040 Msg Type 07137: 32784 31088 06612 27206 22267 03570 28644 61435  
 Link ID 41018 Msg Number 040 Msg Type 07145: 32768 30832 06612 27206 21686 02548 17737 51959  
 Link ID 41023 Msg Number 056 Msg Type 07145: 32768 30832 06652 27358 65023 03071 57307 53247  
 Link ID 41018 Msg Number 040 Msg Type 07145: 32768 30832 06612 27206 21686 02548 17865 51959  
 Link ID 41018 Msg Number 040 Msg Type 07145: 32768 30832 06612 27206 21686 02548 17737 51959  
 Link ID 41018 Msg Number 040 Msg Type 07145: 32768 30832 06612 27206 23734 02548 21833 51959

#### **11083 kHz, 18-09, 0210 UTC, FSK 200/1000**

Link ID 13884 Msg Number 000 Msg Type 13876: 24576 00000 00000 00057 16339 04078 00000 29680  
 Link ID 13876 Msg Number 000 Msg Type 13876: 24576 00000 00001 00057 32705 04014 00000 29008

Link ID 41018 Msg Number 040 Msg Type 07145: 32768 30832 06612 27206 21686 02548 17737 51959  
Link ID 41023 Msg Number 056 Msg Type 07145: 32768 30832 06652 27358 65023 03071 57307 53247  
Link ID 41018 Msg Number 040 Msg Type 07145: 32768 30832 06612 27206 21686 02548 17737 51959

**11083 kHz, 18-09, 0220 UTC, FSK 200/1000**

Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22425 03819 38919 21577  
Link ID 32837 Msg Number 002 Msg Type 07137: 37600 41833 02573 01038 22937 12011 06159 16449  
Link ID 61557 Msg Number 011 Msg Type 07145: 37612 41833 12047 36031 24473 32491 63495 64585  
Link ID 25003 Msg Number 005 Msg Type 07137: 53960 10579 22039 02158 44851 07622 08207 43411  
Link ID 47191 Msg Number 010 Msg Type 07149: 37613 41833 47883 37951 22425 03819 38919 21577  
Link ID 45145 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 01939 03823 06159 32349

**8040 kHz, 18-09, 2122 UTC, FSK 200/1000**

Link Id 45079 Msg 21780 02008 60698 31219 53317 03188 14381 15200

**16320 kHz, 19-09, 0150 UTC, FSK 200/1000**

Link ID 13366 Msg Number 000 Msg Type 13366: 16384 00000 00000 01852 15391 03980 00321 30847  
Link ID 13366 Msg Number 000 Msg Type 13366: 16384 00000 00000 01852 15371 03468 00000 14382  
Link ID 41018 Msg Number 045 Msg Type 07145: 32768 13891 29617 19628 21686 01099 19285 27185  
Link ID 41018 Msg Number 045 Msg Type 07145: 32768 13891 29617 19628 21695 01103 19295 27251  
Link ID 41018 Msg Number 045 Msg Type 07145: 32768 15939 29617 19628 21686 01099 19285 27185  
Link ID 61567 Msg Number 127 Msg Type 07147: 32784 14039 63475 52476 64758 03403 53077 61233  
Link ID 41018 Msg Number 045 Msg Type 07145: 32768 13891 29617 19628 21686 01099 19285 27185

**11083 kHz, 19-09, 0210 UTC, FSK 200/1000**

Link ID 13366 Msg Number 099 Msg Type 13366:17251 25411 13876 27924 15371 16697 14273 32844  
Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22425 03819 38919 21577  
Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22427 03819 38919 21579  
Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22425 03819 38919 21577  
Link ID 45057 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22425 03819 38919 21577  
Link ID 45141 Msg Number 074 Msg Type 07145: 37612 41833 11019 33983 22425 03823 38919 29737  
Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22425 03819 38919 21577  
Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22417 03818 38919 01097  
Link ID 45141 Msg Number 010 Msg Type 07145: 37612 41833 11019 33983 22425 03819 38919 21577

**14880 kHz, 19-09, 0300 UTC, FSK 200/1000**

Link ID 41018 Msg Number 045 Msg Type 07145:32768 13891 29617 19628 21759 01263 19327 28669  
Link ID 41018 Msg Number 045 Msg Type 06889: 32768 13379 29617 19628 21686 01099 19285 27185  
Link ID 41018 Msg Number 045 Msg Type 07145: 32768 13891 29617 19628 21686 01099 19285 27185  
Link ID 41018 Msg Number 045 Msg Type 07145: 32768 13891 29617 19628 21686 01099 19285 27185

**14880 kHz, 20-09, 0230 UTC, FSK 200/1000**

Link ID 41342 Msg Number 246 Msg Type 08169: 32768 16563 27097 32511 65532 07415 53246 32711  
Link ID 41018 Msg Number 050 Msg Type 06569: 32768 00177 08384 24261 21686 03251 50014 14279  
Link ID 45114 Msg Number 050 Msg Type 07145: 32768 16434 00192 07877 21686 03251 50010 14274  
Link ID 51752 Msg Number 075 Msg Type 21533: 24972 16610 04873 26656 61951 60105 43210 22070  
Link ID 20836 Msg Number 244 Msg Type 07136: 32784 16757 17304 44191 59768 06246 36532 12037  
Link ID 51358 Msg Number 129 Msg Type 32768: 29184 00160 49247 12920 16391 22732 30806 51461

**16320 kHz, 23-09, 0150 UTC, FSK 200/1000**

ID 41023 Msg Number 147 Msg Type 06632: 32768 44821 50107 11253 41683 33202 07485 37014

**14880 kHz, 23-09, 0230 UTC, FSK 200/1000**

Link ID 61597 Msg Number 147 : Msg Type 08173: 32776 42775 59835 38869 41619 32930 08469 45206  
Link ID 32826 Msg Number 055 : Msg Type 07145: 32768 44816 00630 11259 21670 00772 23162 25388  
Link ID 32824 Msg Number 055 : Msg Type 07145: 32768 42773 49782 11195 21750 00964 23162 25388  
Link ID 20513 Msg Number 152 : Msg Type 09211: 01241 63544 17631 17886 13278 37379 28739 28163  
Link ID 41018 Msg Number 055 : Msg Type 07145: 32768 42773 49782 11259 20588 00905 28901 51017

**16320 kHz, 24-09, 0150 UTC, FSK 200/1000**

Link ID 41018 Msg Number 060 Msg Type 07145: 32768 47897 02815 17503 23806 08702 57331 32623  
Link ID 57400 Msg Number 156 Msg Type 08169: 34816 65305 03855 17935 21750 00126 23507 32047  
Link ID 07582 Msg Number 198 Msg Type 41544: 52540 63312 04082 37113 61364 22395 56474 17793

**14880 kHz, 24-09, 0230 UTC, FSK 200/1000**

Link ID 41016 Msg Number 028 Msg Type 05097: 32768 47897 02807 17535 17590 00126 07155 29999  
Link ID 41022 Msg Number 044 Msg Type 07145: 32768 47897 00639 17535 21686 00126 23507 29999  
Link ID 41018 Msg Number 060 Msg Type 07145: 32768 15121 02815 17503 21686 00254 23489 29999

**14880 kHz, 25-09, 0230 UTC, FSK 200/1000**

Link ID 09744 Msg Number 000 Msg Type 13872: 24576 00000 00000 00025 13968 03908 00000 12544  
Link ID 02072 Msg Number 128 Msg Type 00488: 00000 54240 35096 00000 00022 00000 01024 00000  
Link ID 00592 Msg Number 019 Msg Type 32789: 06028 39761 63228 18969 56439 40338 29483 00584  
Link ID 10816 Msg Number 009 Msg Type 57673: 10268 00329 40993 16906 02336 03072 32992 33825

**16320 kHz, 26-09, 0150 UTC, FSK 200/1000**

Link ID 12592 Msg Number 000 Msg Type 12593: 04096 00000 00000 00772 16128 02560 08192 23853  
Link ID 41018 Msg Number 006 Msg Type 06889: 32769 43329 08972 08120 17586 03479 12066 25223  
Link ID 36045 Msg Number 081 Msg Type 10803: 03775 01705 61673 58476 47694 08204 04142 57777  
Link ID 41072 Msg Number 221 Msg Type 07145: 32769 43329 10132 40824 59773 02862 20221 50591  
Link ID 50790 Msg Number 040 Msg Type 48688: 08147 01908 53501 62014 65423 46598 07927 61906  
Link ID 37285 Msg Number 030 Msg Type 19331: 37326 18544 29961 33180 15825 23501 39346 16211  
Link ID 41076 Msg Number 221 Msg Type 07145: 32768 43329 10009 40816 22908 06958 03700 50575

**14880 kHz, 26-09, 0230 UTC, FSK 200/1000**

Link ID 12544 Msg Number 000 Msg Type 12337: 04096 00000 00000 00256 13840 32841 00000 02413

**14880 kHz, 27-09, 0230 UTC, FSK 200/ 1000**

Link ID 12326 Msg Number 000 Msg Type 12342: 00000 00000 00000 00792 07179 03468 00000 14382  
Link ID 12946 Msg Number 000 Msg Type 13366: 00000 00000 00000 00796 07169 01032 00000 04134  
Link ID 41008 Msg Number 067 Msg Type 07145: 32913 28658 62094 16908 21686 03340 34196 55877  
Link ID 52993 Msg Number 013 Msg Type 00192: 01779 01791 06539 45090 57478 02275 37779 48968  
Link ID 40976 Msg Number 003 Msg Type 07145: 32769 27312 45068 00000 11557 07944 06400 61699  
Link ID 00788 Msg Number 068 Msg Type 00304: 25408 30157 26612 04960 47687 48858 49889 45435

**16320 kHz, 30-09, 0150 UTC, FSK 200/1000**

Link ID 41016 Msg Number 080 Msg Type 07145: 32769 40057 19920 08321 22708 03315 17354 34023  
Link ID 42046 Msg Number 208 Msg Type 05097: 32769 38937 03547 12515 54454 02801 16845 37491  
Link ID 58366 Msg Number 241 Msg Type 07145: 32769 39995 61433 24819 64892 03825 54154 46583

**14880 kHz, 30-09, 0230 UTC, FSK 200/1000**

Link ID 13366 Msg Number 000 Msg Type 13366: 17248 00000 00000 00343 15371 03851 00000 48887  
Link ID 41018 Msg Number 080 Msg Type 07144: 32769 39984 03545 00225 21686 02801 16845 37491  
Link ID 25806 Msg Number 243 Msg Type 00002: 32784 10504 26422 35475 38617 02015 16921 19779  
Link ID 41018 Msg Number 080 Msg Type 07145: 32769 40121 19929 08417 21686 02801 16845 37491  
Link ID 61461 Msg Number 160 Msg Type 07149: 32777 40189 12004 06392 43611 34288 08430 18745  
Link ID 41018 Msg Number 080 Msg Type 07145: 32769 40121 19929 08417 21686 02800 16844 37489  
Link ID 41022 Msg Number 113 Msg Type 07145: 32769 40121 19963 08417 54454 02801 16845 37491  
Link ID 16740 Msg Number 177 Msg Type 06626: 33810 40307 36530 49362 43388 01267 37514 09703  
Link ID 32784 Msg Number 000 Msg Type 07144: 32768 39952 03264 00224 00018 00240 00204 00049

**Sample message:**

**16320 kHz, 26-09, 0150 UTC, FSK 200/1000. Decoded with Rivet**

Block No 1 : Link ID 12592 : Corrupt Date : Msg Number 000 : Msg Type

12593 : Group Count (?) 0

04096 00000 00000 00772 16128 02560 08192 23853

7d,12,b0,e6,00,33,31,00,10,00,30,00,10,00,30,00,10,03,30,00,00,04,30,25,fa,0d,00,02,00,0d,ce,07,11,09,84,0c

Block No 1 : Link ID 41018 : Corrupt Date : Msg Number 006 : Msg Type

06889 : Group Count (?) 245

32769 43329 08972 08120 17586 03479 12066 25223

7d,12,b0,e6,00,33,18,fa,a0,59,e0,e4,91,71,a0,21,07,3f,30,0b,a6,c8,40,26,4d,f2,b9,28,27,27,dd,9f,9e,6f,5e,c0

Block No 13

7d,13,b0,e6,01,bb,35,ff,da,3d,ff,ff,bc,04,60,40,89,80,3e,93,63,d7,db,f8,b9,f8,c2,71,97,6d,4c,80,7f,6e,3f,9c

Block No 6

7d,12,b0,e6,00,c4,00,80,dc,4a,3d,d3,34,d7,8f,d2,cf,9d,59,62,04,60,00,13,6e,87,60,48,c2,29,f0,21,bf,f7,a0,3f

Block No 7

3d,12,b0,e6,00,ff,f8,0c,73,48,c2,5a,45,51,3e,d4,1b,00,b6,64,9e,37,1e,07,ff,d9,ff,03,6a,3a,00,6f,9e,4c,0a,01

Block No 9

7d,12,b0,e6,01,25,b1,60,af,ee,7f,aa,3f,88,83,de,48,04,c5,e7,b3,98,b2,1f,f7,e1,69,ff,f6,72,b4,40,63,04,46,76

Block No 15

7d,12,b0,e6,01,e1,49,84,b3,b8,9c,b5,1e,10,91,78,14,01,9b,49,5e,9c,35,b3,db,8f,cc,b5,1d,23,5c,ae,f8,d0,44,30

Block No 16

7d,12,b0,e6,02,1e,00,00,40,02,80,00,10,00,00,00,00,04,20,0f,00,03,00,04,d0,07,60,0d,00,05,10,08,b8,06,20,0c

Block No 18

7d,12,b0,e6,02,4b,ec,1f,4a,43,ec,ff,e7,e1,03,ff,ff,38,c7,a6,a0,c1,59,9c,19,e1,e1,2b,7b,2b,34,78,02,54,31,7b

Block No 19

7d,12,b0,e4,02,78,fb,42,8d,41,30,da,1c,95,d2,3c,0b,bc,7f,ff,fb,10,8c,a9,97,9f,d0,08,ff,5f,15,15,27,59,c5,bf

Block No 21

7d,12,b0,e6,02,b4,00,07,9a,ac,62,9a,3d,39,f5,d9,69,31,64,d0,dc,74,0c,cb,64,33,c3,00,60,c8,24,da,f1,b8,cb,3e

Block No 24

3d,12,b0,e6,03,08,e2,d5,fc,f9,b1,5c,36,65,e2,12,09,13,ad,27,d3,47,ce,1c,c0,94,1e,ff,cf,bf,b3,f3,9f,f9,69,17

Block No 57

3d,12,b0,e6,07,3b,9a,74,f7,13,53,ce,04,90,00,89,0d,fc,e7,4c,18,31,88,28,00,23,8a,1b,56,b8,72,0a,6d,fe,7c,4c

Block No 26

7d,12,b0,e6,03,5d,9a,e4,93,d0,0c,be,77,e0,19,19,ae,fe,80,06,9b,17,0c,2c,16,e1,86,35,f2,18,68,00,56,4a,65,2f

Block No 28

6d,12,b0,e6,03,91,ac,6c,ec,5c,11,ffa2,03,96,ff,e5,c1,fc,8e,42,29,ae,71,db,79,f2,0f,18,b7,e8,a0,00,d0,43,81

Block No 30

7d,12,b0,e6,03,c4,b1,55,dd,00,5b,07,f4,e8,e3,28,48,46,16,62,9e,bd,a0,09,4f,a6,97,e4,ef,cf,ba,e9,4e,8e,65,64

Block No 31

7d,12,b0,e6,03,f7,59,c3,29,e0,db,ee,7f,f9,32,46,20,09,c2,cf,0f,65,c7,09,61,53,16,bb,f0,5d,7e,96,0f,78,8c,02

Block No 33

7d,12,b0,a6,04,2b,01,05,20,0f,71,f6,36,71,7f,62,e0,0c,4c,ca,31,c5,3a,20,9f,bd,75,13,b8,fb,ff,fd,ff,9f,3b,f6

Block No 35

7d,12,b0,e6,04,7e,ea,40,60,40,c3,70,c2,30,d9,c0,64,88,20,00,ac,00,9d,08,d0,76,c3,df,f1,e3,ff,f8,68,d2,84,81

-----  
Block No 0 : Total Message Size 37 blocks : This transmission contains one message.

7d,12,b0,e6,00,00,00,00,40,00,80,00,10,00,00,00,00,00,30,07,80,03,00,04,d0,07,60,0c,04,01,00,04,10,03,20,0c

Block No 3

7d,12,b0,e6,00,66,8f,46,14,0f,df,9f,7f,f7,f9,98,70,f8,0d,c6,ce,fb,d9,c4,00,36,8c,25,fe,fd,a5,22,9f,c9,94,b2

Block No 4

7d,12,b0,e4,00,99,14,2e,fa,34,ba,fb,9e,12,60,40,c4,c0,5f,49,b1,e3,e5,84,7c,fc,61,38,cb,b6,a6,40,2e,b7,1f,de

Block No 7

7d,12,b0,e2,00,ff,f8,0c,73,48,c2,5a,45,51,3e,d5,5f,90,b6,64,1e,37,00,00,01,81,ff,07,fa,3a,00,05,0e,4c,1a,01

Block No 8

7d,12,b0,e6,01,16,91,af,bf,1e,66,23,41,12,5f,90,2d,10,09,cf,e9,e8,30,c4,12,b8,fc,e5,0e,7e,1e,7b,86,11,78,0b

Block No 12



message.

7d,12,b0,e6,00,00,00,00,00,00,c0,00,1a,00,00,00,00,06,30,07,80,03,80,00,80,03,b0,06,80,07,c8,0c,f8,02,00,06

Block No 99

7d,12,b0,e6,0c,7f,39,ff,f0,59,e0,e0,91,fb,f0,69,07,1f,34,8b,a7,c8,58,37,26,f9,5c,9e,33,13,ee,cf,c9,37,2f,6a

Block No 4

79,12,b0,e6,00,99,14,ee,fa,34,ff,ff,bf,be,72,40,c7,80,5f,49,b1,eb,ed,f4,7d,f4,61,08,cf,fe,a4,00,2e,b7,1f,c6

Block No 5

3d,12,b0,e6,00,aa,11,9a,a8,23,a8,09,ae,83,6c,31,7f,61,f7,ff,03,bc,f0,3f,ff,71,e1,8f,8a,df,70,81,c0,c5,60,2e

Block No 0 : Total Message Size 122 blocks : This transmission contains 9

messages.

7d,12,b0,e2,00,04,04,fe,fe,6f,36,e9,9a,6b,c0,a9,67,8e,fd,f1,4a,28,48,dd,b7,43,b0,24,67,14,f8,10,de,e9,d0,1f

Block No 7

fd,12,b0,e6,00,ff,f8,0c,73,48,c2,5a,4f,71,3e,d5,5b,90,f7,e4,9e,36,10,03,25,db,ff,03,fa,7c,00,6f,9e,dc,1a,01

Block No 1 : Link ID 36045 : Corrupt Date : Msg Number 081 : Msg Type

10803 : Group Count (?) 74

03775 01705 61673 58476 47694 08204 04142 57777

7d,12,b0,e6,00,20,20,40,ae,a6,3b,2a,3f,89,8b,fe,c8,04,c5,e6,d1,9c,b2,1e,a0,01,40,2b,ec,e1,28,80,c6,0b,9c,ec

Block No 15

7d,12,b0,e6,01,e9,49,84,b1,f8,9c,b5,3e,10,91,78,1c,51,bb,49,5e,bc,7f,b7,ff,9a,88,ef,3f,67,e8,0e,f9,b0,cc,70

Block No 19

7d,52,b0,e6,02,79,fb,42,8d,41,38,8a,1c,95,40,11,89,bc,3f,ff,ff,f5,fd,fb,bf,b7,50,7c,ff,7f,15,15,27,59,c5,80

Block No 22

3d,12,b0,e6,02,d2,72,aa,69,f9,7f,f7,c8,06,a8,a7,7f,9a,4b,e2,8f,7b,46,3a,04,b2,70,30,2e,84,7f,af,78,08,3e,74

Block No 24

7d,12,b0,e6,03,08,e2,d5,fc,f8,31,5c,36,65,e2,12,09,13,ad,27,93,47,ca,0c,40,94,1e,fc,c5,96,91,71,8d,79,fb,37

Block No 59

7d,12,b0,e6,07,7b,9a,74,f7,11,52,db,0c,90,b0,89,0d,fe,ef,48,18,61,88,28,11,23,8a,1b,5f,f9,f6,1e,fb,e4,58,98

Block No 31

7d,12,b0,e6,03,ff,ff,02,2c,e5,9f,81,f3,c3,f9,c0,9f,3f,f7,fc,41,f1,79,79,3c,31,fc,6c,e4,ba,8f,94,03,cc,a1,6a

Block No 28

7d,12,b0,e6,03,91,ac,6c,ec,1c,11,ff,fe,73,9e,10,01,c1,fc,8c,60,29,6e,71,db,58,f2,0f,1c,ff,fc,f0,73,f8,61,80

Block No 30

7d,12,b0,e6,03,c4,f3,ff,ff,09,fb,05,34,68,f3,68,40,e6,3e,ef,3d,7b,40,12,9f,df,7f,de,6f,9d,35,d2,9d,1c,ca,d9

Block No 31

fd,12,b0,e6,03,f7,51,80,09,80,db,ee,7b,fb,bb,67,35,04,e1,6f,87,b2,e2,84,b0,a9,9f,dd,f8,2e,b4,4b,0f,fc,ce,73

Block No 98

7d,12,b1,e6,0c,4f,92,69,72,a9,08,36,17,a2,e9,56,97,be,a7,0f,73,37,9a,4d,fc,ff,ed,b0,77,cf,7f,ef,3b,7b,f8,3c

Block No 0 : Total Message Size 37 blocks : This transmission contains 0

messages.

7d,12,b0,e4,00,00,00,00,41,00,80,00,00,00,00,01,00,04,30,0d,00,03,00,04,d0,07,60,0d,00,0f,90,00,b0,06,20,0c

Block No 1 : Link ID 41072 : Corrupt Date : Msg Number 221 : Msg Type

07145 : Group Count (?) 245

32769 43329 10132 40824 59773 02862 20221 50591

7d,12,b0,e6,00,33,18,fa,b0,59,e0,e4,91,71,a0,29,07,7f,7d,97,0d,48,e0,4c,9b,e5,72,f9,de,df,ff,7f,78,39,d3,51

Block No 4

7d,02,b0,e6,00,99,14,ee,fa,34,ba,fb,9f,96,72,40,c4,c0,1f,41,b0,ab,ed,f4,54,b4,61,38,cb,96,ae,40,2e,b7,1f,ce

Block No 6

7d,12,b0,e6,00,cc,04,94,dc,4a,21,c3,34,d7,8f,52,cf,9d,59,62,84,40,91,bb,ee,87,60,48,ce,29,f0,21,bf,f7,a0,3f

Block No 1 : Link ID 50790 : Corrupt Date : Msg Number 040 : Msg Type

48688 : Group Count (?) 111

08147 01908 53501 62014 65423 46598 07927 61906

7d,13,b0,e6,00,25,b1,60,ef,f7,3d,57,03,c4,c5,df,6c,02,62,f3,68,de,fb,1f,f6,e1,80,fd,f6,72,94,40,63,c6,67,3f

Block No 31

7d,12,b0,e6,03,f0,b7,51,43,8f,c8,43,40,b9,21,f4,ca,df,5d,6a,a4,6a,f9,cc,b1,a6,82,af,03,6d,02,29,b3,70,fb,93

Block No 12

7d,12,b0,e6,01,8f,bd,35,90,cf,9d,8b,3d,69,03,25,91,2c,fa,f6,6f,04,00,e0,bf,fc,1f,be,95,ab,d7,df,c3,3d,df,91

Block No 15

7d,12,b0,e6,01,fc,c1,ba,20,8c,8c,35,ef,fc,6e,f7,bb,f9,44,94,07,ce,6f,89,3f,f8,f9,53,39,fb,83,b8,60,90,08,01

Block No 1 : Link ID 37285 : Corrupt Date : Msg Number 030 : Msg Type

19331 : Group Count (?) 139

37326 18544 29961 33180 15825 23501 39346 16211  
7d,12,b0,e6,00,20,49,84,b1,b8,8c,b7,3e,10,91,78,1c,51,a1,09,5e,9c,35,93,db,9f,dc,b5,1d,23,5c,ae,f8,90,04,30  
Block No 16  
7d,12,b0,e6,02,1e,08,00,d0,81,80,00,00,00,00,00,04,20,05,00,03,00,04,90,07,60,0d,00,0f,b0,1b,b0,06,20,0c  
Block No 63  
7d,92,b0,e6,07,e1,83,62,74,14,f3,b3,9f,b6,cb,73,df,ff,ff,ed,87,cf,b1,3f,b4,5f,7f,e3,7f,e7,3e,d8,84,e0,70,02  
Block No 24  
7d,12,90,e6,03,08,e2,fd,fc,f9,b1,5c,36,6f,c4,24,12,27,da,4f,ce,9f,bc,39,81,28,3d,fb,8b,2d,23,f3,9a,f3,d6,6e  
Block No 25  
7d,12,b0,e6,03,3b,9a,74,f7,11,53,df,1c,90,b0,80,4d,fc,e7,4c,58,71,88,28,11,23,8a,1b,56,b8,f2,0a,68,fe,7c,4c  
Block No 32  
7d,12,b0,e6,04,18,00,00,40,00,80,10,10,00,02,00,00,0c,60,0f,00,07,00,09,a0,0e,c0,1a,00,0f,21,11,60,0c,40,1c  
Block No 33  
7d,12,b0,e6,04,2b,01,05,20,0f,60,b6,36,71,ff,62,e8,18,00,8a,30,cd,3a,20,9e,bd,7d,13,b8,b9,ae,f8,f5,8f,19,b2  
Block No 1 : Link ID 41076 : Corrupt Date : Msg Number 221 : Msg Type  
07145 : Group Count (?) 245  
32768 43329 10009 40816 22908 06958 03700 50575  
7d,12,b0,e6,00,33,18,fa,b0,59,e0,e4,90,41,a0,29,0f,7f,7d,17,4d,90,51,0c,9b,e5,72,78,ce,4f,ff,3f,20,dc,bf,e9  
Block No 3  
7d,10,b0,e6,00,66,8f,47,14,06,cb,8b,3f,b2,b9,c8,70,b8,04,c2,46,79,d9,fc,54,36,9c,2f,ff,ff,a4,22,8d,c9,9c,b2  
Block No 4  
7d,12,b0,e6,00,99,04,ee,fa,34,ba,fb,8e,16,00,40,84,00,00,49,b1,eb,ed,f4,54,fc,61,39,cb,e5,ee,c0,2e,b7,1f,ce  
Block No 7  
7d,12,30,e6,00,ff,f8,0c,73,48,c2,5a,45,f3,3f,d5,5f,90,b6,65,ff,3f,1c,03,25,d9,ff,03,6a,3a,00,77,cf,ee,0d,00  
Block No 8  
7d,13,b0,e6,01,16,90,af,bf,1f,77,67,e1,9b,3f,d0,16,88,05,e7,f4,fe,38,62,0d,48,4c,62,87,3f,0b,3d,c3,08,9c,01  
Block No 13  
7d,13,b0,e6,01,a5,b1,60,ae,a6,3f,fe,7f,01,8b,96,48,04,c5,e6,d1,9c,b2,1e,a4,c1,41,bb,ec,e5,ed,81,ce,08,8c,6c  
Block No 266  
7f,12,b0,e6,21,43,21,36,f1,00,60,20,47,77,e4,02,4f,f7,cd,f8,79,8c,f6,0f,39,c7,f0,2b,d3,67,08,75,d5,30,9e,bb  
Block No 31  
7d,12,b0,ee,03,fd,81,fe,61,9d,bc,7f,ff,90,06,73,90,79,44,97,f5,21,21,89,3e,e8,79,51,19,fb,83,b8,60,94,4a,47  
Block No 15  
7d,12,b0,e6,01,e9,49,80,b0,39,bd,6e,3c,21,22,e0,20,a3,76,92,fd,38,7b,27,b7,1f,88,4a,3a,42,b9,5d,f1,20,88,e0  
Block No 18  
7d,12,f0,e6,02,4b,ec,1f,de,42,4c,bd,c7,42,3a,d3,de,39,8f,4d,41,86,f2,30,33,cb,c2,56,f6,56,6c,f0,4e,fe,66,fe  
Block No 21  
7d,12,b0,e7,02,bc,d5,f7,9a,ac,67,9f,3d,3d,f5,d9,69,3b,e5,d0,18,44,0c,cb,65,73,c3,00,e0,c9,2f,da,f1,b8,cb,7a  
Block No 22  
7d,12,b0,e6,02,d2,72,aa,69,bb,7f,27,c0,06,e8,e5,b8,02,4b,e2,8f,fb,46,3e,04,b6,f0,30,6f,84,7f,bf,87,7a,fe,74  
Block No 25  
7d,12,b0,e6,03,3b,9a,74,f7,11,53,df,1c,90,b0,89,0f,fc,e7,4c,58,71,88,28,11,33,8a,1b,56,b8,f2,0a,7d,fe,7c,4c  
Block No 30  
7d,12,b0,e6,03,c4,b1,55,cd,00,7a,01,34,68,d3,28,58,e6,16,66,9e,bd,a0,09,4c,01,5b,f7,b3,8a,4c,d4,e6,0e,65,64  
Block No 33  
7d,12,b0,e6,04,2b,01,27,20,0f,61,ff,3f,79,7f,62,e8,9c,54,c8,31,c5,3a,20,9e,bf,fb,33,b8,b9,ff,f8,f5,8f,bb,f0  
Block No 6  
7d,12,b0,e6,00,d9,9c,ff,fa,34,ba,fb,9e,96,72,40,c4,c0,09,49,b1,eb,ed,f4,74,fe,61,38,4b,b6,a6,40,22,02,1f,80  
Block No 7  
fd,12,b0,e6,00,ff,f8,0c,73,48,c2,5a,40,01,3a,c1,5f,90,b6,64,9e,7f,1c,03,25,d9,ff,03,6a,3a,00,25,8e,4c,1a,01  
Block No 8  
7d,12,b0,e6,01,16,91,2f,bf,1e,66,67,41,12,5f,90,2d,10,09,cf,e8,8c,70,c4,3a,90,98,c5,0c,7e,16,7b,86,11,78,0b  
Block No 10  
7d,10,b0,e6,01,43,21,36,d0,10,60,75,67,67,c4,02,4f,f2,c4,b8,18,84,73,05,18,02,aa,15,e9,b3,84,3a,aa,18,4b,5d  
Block No 15  
7d,12,b0,ee,01,f1,93,51,43,8f,c8,43,40,b9,10,64,ce,ff,5f,ff,ec,fb,f8,dd,b3,ef,87,ff,07,ed,04,55,f3,61,fb,93  
Block No 12  
7d,12,30,e6,01,8f,bd,35,90,47,4c,c5,14,90,03,92,c8,92,ff,7b,37,82,0c,e0,94,dc,0e,95,0a,d5,eb,ef,e1,1e,af,88  
Block No 31  
7d,32,b0,e6,03,ff,ff,bf,37,ff,03,00,9c,d1,db,66,6f,07,2a,af,2c,11,18,42,ba,dc,7b,5c,f4,39,40,30,0d,42,d4,f7



Block No 17

7d,12,b1,e6,02,2d,23,c0,c4,60,59,4b,fb,e0,90,a6,ae,18,08,ae,81,c6,5e,1f,e6,02,54,20,dd,0b,80,57,e0,41,35,50

Block No 3

7d,12,b0,e6,00,78,fb,42,8c,41,30,df,1c,95,d2,15,89,ac,2a,fd,ff,50,ac,a9,97,97,50,dd,fe,df,15,15,27,db,c5,97

Block No 156

7d,12,b0,e6,13,87,08,06,0a,38,dd,be,c6,ff,fc,03,ff,dc,20,3c,24,f2,7c,82,fc,56,06,ae,ba,a1,d7,68,06,5b,37,dc

Block No 31

7d,12,b0,e6,03,e6,f6,ea,69,b9,7f,25,c8,02,a0,67,55,df,6f,f3,c7,3d,a3,05,06,53,78,00,17,46,7f,ff,bc,2d,5f,3a

Block No 23

7d,52,b0,e6,02,e1,29,62,34,14,f3,b3,9f,97,db,e3,be,cf,77,db,0f,9f,fe,ff,f1,3c,fa,8d,fd,8c,fb,62,13,c1,c0,0a

Block No 24

7d,12,b0,e6,03,08,e2,dd,fc,f9,b1,de,3f,77,e3,1b,0d,9b,ff,93,e9,a3,e5,06,20,4a,0f,7e,e2,cb,48,b8,c6,bc,f5,9a

Block No 30

7d,12,b0,e6,03,c4,a0,55,dd,09,fb,05,34,68,f3,28,7c,f6,16,66,9e,bd,a0,09,4f,a6,97,e7,10,ce,9a,e9,4e,8e,64,0c

Block No 32

79,12,b0,e6,04,18,00,00,40,00,80,00,10,00,00,00,00,04,00,00,00,07,00,06,f8,03,f0,06,80,06,d8,04,78,03,10,06

Block No 33

7d,12,b0,e6,04,2b,02,0e,60,0f,61,fe,36,71,7f,62,e8,9c,54,ca,31,c4,3a,20,9e,bd,75,13,b8,b9,ae,f9,fd,9f,3b,f6

-----  
Block No 0 : Total Message Size 37 blocks : This transmission contains one message.

7d,12,b0,e6,00,00,00,00,42,00,80,00,10,00,00,00,00,04,20,05,80,03,00,04,f0,07,60,0f,80,07,80,00,10,07,10,06

Block No 2

7d,12,b0,e2,00,55,f2,6a,59,ef,91,18,fa,36,87,e2,0c,ff,cd,62,0e,12,57,18,62,2c,fc,ff,ad,c4,ff,c1,bf,e2,05,82

Block No 71

7d,12,b0,e6,08,ff,f0,0c,77,58,c2,5a,45,51,3e,d5,5d,80,b6,67,de,77,1c,02,01,d9,ff,13,fa,3a,00,27,8f,7e,1e,01

Block No 13

7d,12,b0,e6,01,bc,c1,ba,20,8c,9c,35,ea,d4,2e,73,91,79,44,9d,ef,de,ff,89,3e,e8,79,51,19,fb,83,b8,20,94,4b,04

Block No 19

fd,12,b0,e6,02,78,fb,ca,9d,c3,70,fe,1c,95,d2,15,89,2e,bd,7c,f9,80,16,54,cb,cb,a8,2e,7f,2f,8a,08,93,ac,e2,cb

Block No 20

7c,12,b0,e6,02,87,40,02,0c,38,d9,3d,84,f5,a8,02,97,98,40,78,49,e4,d1,05,f0,2c,0d,5d,70,4b,ae,d0,0e,b7,ff,fc

Block No 21

7d,12,b0,e6,02,b0,40,37,9a,bc,06,1e,3d,39,f4,d9,69,31,64,d0,9c,74,1c,df,e4,73,c3,00,60,80,2f,da,fb,f8,cb,7a

Block No 23

7d,12,b0,e6,02,f2,72,aa,7f,fb,ff,6f,c8,07,fc,e7,7a,1a,4b,e2,8f,7b,4e,7e,04,bf,f1,30,3f,8c,7f,ff,f0,1a,be,74

Block No 25

7d,10,b0,e6,03,3b,9a,74,f7,11,57,ff,3c,b1,f1,89,0d,3c,ef,cc,58,11,88,28,11,23,8a,0b,56,fc,f3,0e,6d,fe,7c,4c

Block No 27

7d,12,b0,e6,03,6e,b7,02,2c,e4,8f,81,f2,c9,d8,c0,89,bf,d3,b4,41,f1,79,78,3c,31,fc,6c,e4,fa,8d,18,6f,dd,e2,ff

Block No 31

7d,12,b0,e6,03,f7,51,c3,29,e0,ff,fe,7f,e9,32,46,2a,09,c2,cf,0f,ef,c5,09,61,53,16,bb,f0,5f,7e,96,0d,20,ce,73

Block No 33

3d,12,b0,e6,04,2b,01,0f,60,1f,e3,fe,7e,70,1f,62,e8,9c,00,ca,31,c5,3f,20,9e,bd,75,13,b8,f9,fe,f8,f5,8f,11,b2

Block No 34

7d,12,b0,e6,04,4d,92,69,73,b9,8b,76,17,a2,e9,56,90,16,a7,0f,73,37,9a,44,bc,7f,e4,90,32,c5,29,e7,19,68,68,1e

Block No 35

7d,12,b0,e2,04,7e,ea,40,ff,c1,c3,70,c2,20,d9,d0,ec,80,ed,a0,ac,08,9d,08,d0,76,40,17,f1,e3,f7,f8,38,d7,fd,83

## M42

Date	UTC	Freq.	Remarks	Mode
1-9-2013	1105	16244	Russian Intel. Nr 163 on Link 51209 Types 38396 & 40444 - same 5FG message	FSK 200/1000
1-9-2013	1110	14784	Russian Intel. Nrs 70/163/249; Links 36882 51209 53140; Types 07145 40956	FSK 200/1000
2-9-2013	0150	16320	Russian Intel.	FSK 200/1000
3-9-2013	0150	16320	Russian Intel.	FSK 200/1000
6-9-2013	0150	16320	Russian Intel.	FSK 200/1000
9-9-2013	1829	6933	Russian diplo	Serdolik MFSK/40/1500
10-9-2013	0150	16320	Russian Intel. Msgs on link id's 13356, 65535, 13374, 13360, 41018, 41019,	FSK 200/1000

Date	UTC	Freq.	Remarks	Mode
			41135, 62529	
10-9-2013	0803	11073	Russian diplo	Serdolik MFSK/40/1500
11-9-2013	0150	16320	Russian Intel. Msgs on link id's 13366, 05475, 41022, 41471, 41018, 32125	FSK 200/1000
12-9-2013	0150	16320	Russian Intel. Link ID 05172. Msg Type 13876 24577 02050 00000 00313 14273 04014 00000 12624	FSK 200/1000
12-9-2013	1900	9239	Russian Intel. 8 02	FSK 200/500
12-9-2013	1910	6904	Russian Intel 8 02	FSK 200/500
12-9-2013	1920	5087	Russian Intel 8 02	FSK 200/500
13-9-2013	0150	16320	Russian Intel. Link ID 04114. Msg Type 45584 57344 00000 00000 00020 07179 03468 00000 14382	FSK 200/1000
13-9-2013	1707	18726	Russian Intel, Moscow	Baudot 75/500
14-9-2013	1200	17441	Russian Intel. 6 55	FSK 200/500
14-9-2013	1210	15845	FSK 200/500 6 55	USB
14-9-2013	1213	15845	Russian Gov/Intel. 00000+++++++162)5761	Baudot 200/500
14-9-2013	1220	13506	Russian Intel. 6 55	FSK 200/500
15-9-2013	1641	16283	Russian Intel.	FSK 200/1000
16-9-2013	0150	16320	Russian Intel. Msgs on links 13844, 61503, 61543, 41018	FSK 200/1000
17-9-2013	0150	16320	Russian Intel. Messages on links 29718, 13366, 41018, 58359, 41018, 41016	FSK 200/1000
17-9-2013	0150	16320	Russian Intel. Msgs on links 13884, 41016, 41018, 41023	FSK 200/1000
18-9-2013	0220	11083	Russian Intel. Msgs on links 45141, 32837, 61557, 25003, 47191, 45145	FSK 200/1000
18-9-2013	2122	8040	Russian Intelligence. Link Id 45079 headers 21780 02008 60698 31219 53317 03188 14381 15200	FSK 200/1000
18-9-2013	2319	10167	Russian Intelligence just going off air after sending block 59	FSK 200/1000
19-9-2013	0150	16320	Msgs on links 13366, 41018, 61567	FSK 200/1000
19-9-2013	0210	11083	Msgs on links 13366, 45141, 45057	FSK 200/1000
19-9-2013	0300	14880	Msgs on link 41018	FSK 200/1000
19-9-2013	0646	7813	Russian gov/intel. Mark after every 50th group	Baudot 50/500
20-9-2013	0150	16320	Russian Intel.	FSK 200/1000
20-9-2013	0230	14880	Msgs on links 41342, 41018, 45114, 51752, 20836, 51358	FSK 200/1000
20-9-2013	1729	11121	Russian Intelligence distorted op chat before tx then stopped with carrier idling	FSK 200/1000
23-9-2013	0150	16320	Russian intel. Msgs on link 41023	FSK 200/1000
23-9-2013	0230	14880	Russian intel. Msgs on links 61597, 32826, 32824, 20513, 41018	FSK 200/1000
24-9-2013	0150	16320	Russian intel. Msgs on links 41018, 57400, 07582	FSK 200/1000
24-9-2013	0230	14880	Russian intel. Msgs on links 41016, 41022, 41018	FSK 200/1000
25-9-2013	0150	16320	Russian Intel.	FSK 200/1000
25-9-2013	0230	14880	Russian Intel. Msgs on links 09744, 02072, 00592, 10816	FSK 200/1000
26-9-2013	0150	16320	Russian Intel. Msgs on links 12592, 41018, 36045, 41072, 50790, 37285, 41076	FSK 200/1000
26-9-2013	0230	14880	Russian Intel. Msgs on link 12544	FSK 200/1000
27-9-2013	0150	16320	Russian Intel.	FSK 200/1000
27-9-2013	0230	14880	Russian Intel. Msgs on links 12326, 12946, 41008, 52993, 40976, 00788	FSK 200/1000
30-9-2013	0150	16320	Russian Intel. Msg on links 41016, 42046, 58366	FSK 200/1000
30-9-2013	0230	14880	Russian Intel. Msg on links 13366, 41018, 25806, 41018, 61461, 41018, 41022, 16740, 32784	FSK 200/1000

#### M42a

4-9-2013 1812 11484 GRU hfd net; only a short "3K" CW

#### X06

5-9-2013 1050 19511 Mazielka. Sequence 882, 815, 913, 848, 997 & 952Hz



## XP family

### **XPA, 11576/10476/9276 kHz, 03-09, 1900/1920/1940 UTC:**

Block Sync 4444444444  
Block Sync 542 542 542 000 542 542 542 000 542 542 542 000  
Block Sync 4444444444  
Block Sync 6  
Message Start 08042 00001 00000 10140

### **XPA, 11576kHz/10476kHz/9267 kHz, 11-09, 1900/1920/1940 UTC**

Block Sync 4444444444  
Block Sync 542 542 542 1 542 542 542 1 542 542 542 1  
Block Sync 4444444444  
Block Sync 6  
Message Start 08229 00289 64017 17447 64124 50875 84444 10287 74977 68971  
21411 10321 36219 87977 07158 99216 11597 16179 99192 09613  
25200 24827 45353 02375 02709 16902 52281 52310 14992 17695  
50899 15334 91187 96684 73203 34808 79347 71484 61479 75906  
10996 99503 71506 60371 61653 80722 54345 80727 50723 37389  
31871 91521 81216 52056 78873 32837 83093 28596 53104 53666  
34181 55465 48036 398655  
Block Sync 71199 75722 53612 99020 97139 43259 65140 41574 25319 02762  
63573 47102 61348 58766 87019 49599 88932 61857 94124 72692  
85989 06848 96309 57552 46657 23437 85008 23777 63699 13783  
41750 05901 25100 21196 56731 12150 48411 86113360020 55226  
02282 10072 85755 43911 89715 79716 19174 07012 12574 09462  
71957 15590 14347 39627 52284 36144 85762 07883 97468 65145  
03337 43458 46532 71340  
Block Sync 54255 70048856512 82424 44734 50683 44654 90525555412 53806  
67287 30924 06155 44024 14459 65513 79905 00137 45036 43103  
22112 99431 29830 75810 83616 43385 22645 41405 52633 12122  
50141 37826 13882 97056 76843 66944 40984 20465 92668 90533  
45320 09855 43094 32389 08352 93637 69392 29309 21243 50553  
85610 28552 00798 32929 09252 56652 65308 54061 89688 48276  
29841 14053 83972 51407  
Block Sync 50643 56448 52359 66636 99525 88376666872 49251 85862 86667  
36001 21391 96384 87801 45404 9045119165 20016 35177 54466  
42698 15561 63897 39894 40994 16264 60768 72873 65604 60354  
96792 02845 95176 90391 87138 78747 72482 78685 29443 23013  
17624 74607 46094 91788 03890 98098 07451 69404 75354 74676  
77396 40905 13831 67644 58886 15042 26562 40756 03596 64847  
84390 84711 82493 612755  
Block Sync 32558 52265 77310 59570 05710 62684 12276 16628 16208 58107  
10719 46208 21786 00818 14053 32955 69909 64795 66926 28115  
94276 72566678294 08146 09507 81110 22315 33376 21134 33145  
97154 20601 59015 91455 58388801661

### **XPA2, 16147 kHz, 15-09, 1506 UTC:**

06055 00710 34405 43070 32064 76440 00023 22013 46172 36865  
86862 35837 61033 87801 03142



## **North Korean diplomatic stations**

16320, 03-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 04-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 04-09, 1300, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 06-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 08-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 07-09, 0847, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 08-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 10-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 12-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 12-09, 0903, DPRK-ARQ 600/600, MFA Pyongyang  
 16320, 12-09, 1202, DPRK-ARQ 600/600, N. Korean diplo. Probably an embassy  
 16320, 13-09, 0800, DPRK-ARQ 600/600, MFA Pyongyang  
 16121, 17-09, 0810, DPRK-ARQ 600/600, MFA Pyongyang  
 18525, 23-09, 0810, DPRK-ARQ 600/600, MFA Pyongyang  
 20412, 23-09, 0810, DPRK-ARQ 600/600, MFA Pyongyang

Eddy Waters supplied a list of frequencies on which he heard this net in the past 12 months.

**Mode: DPRK-ARQ 600/600**

Frequencies	14632.00	16062.00	16312.00	17462.00	20008.00
10120.00	14680.00	16090.00	16315.00	18033.00	20164.00
10260.00	14743.00	16120.00	16316.00	18035.00	20178.00
10462.00	14744.00	16121.00	16320.00	18036.00	20412.00
11164.00	14748.00	16124.00	16325.00	18037.00	20560.00
11430.00	14750.00	16130.00	16350.00	18045.00	20586.00
11440.00	14780.00	16133.00	16415.00	18135.00	20663.00
11445.00	14785.00	16135.00	16420.00	18145.00	20820.00
11454.00	14820.00	16138.00	16430.00	18159.00	20823.00
12204.00	14832.00	16155.00	16435.00	18254.00	21325.00
13210.00	14965.00	16212.00	16450.00	18259.00	21380.00
13250.00	15873.00	16213.00	16846.00	18415.00	22123.00
13373.00	16001.00	16220.00	17245.00	18525.00	22325.00
13380.00	16003.00	16235.00	17404.00	18574.00	22675.00
13535.00	16008.00	16237.00	17414.00	18745.00	22865.00
14360.00	16014.00	16240.00	17415.00	19243.00	23135.00
14444.00	16016.00	16245.00	17420.00	19420.00	24129.00
14530.00	16060.00	16248.00	17449.00	19421.00	



## **Egyptian diplomatic stations**

**Modes: SITOR-A 100/170 & Codan-9001**

21-9-2013	1646	16073	MFA Cairo clg selcall 33318	Codan 80bd chirp mode/80/2800
28-9-2013	0936	16061.7	MFA Cairo clg KKXT Nairobi	SITOR-A 100/170
28-9-2013	2050	11334.7	MFA Cairo clg RCVB Kinshasa	SITOR-A 100/170



## **Cuban diplomatic stations**

19151.6 kHz, 17-09, 1600 UTC, PSK31:

Cuban Diplo calling and working CLP44

19060.0 kHz, 20-09, 1404 UTC, CW:

CLP3: Cuban embassy Moscow. CLP1 DE CLP3 QSV

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## **Sudanese diplomatic stations**

21000.0 kHz, 12-08, 1637 UTC, USB:

MFA Khartoum wkg Sudanese embassy Yemen – voice traffic

21002.1 kHz, 12-08, 1636 UTC, Pactor:

MFA Khartoum wkg Sudanese embassy Yemen - encrypted msgs

10014.2 kHz, 06-09, 2116 UTC, Pactor:

Tentative Sudanese diplo sending ASCII FILES "+stno+ +ftype+ .bag +size+ 929"

10014.2 kHz, 06-09, 2123 UTC, Pactor:

Tentative Sudanese diplo sending ASCII FILES "+stno+ +ftype+ .bag +size+ 321"

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## **Chinese diplomatic stations**

6-9-2013	1744	16284	Chinese diplo RKST RKST RKST DE QRXM QRXM QRXM QSA+	LSB/4+4/75/2450
7-9-2013	1928	7761	Chinese diplo	LSB/4+4/75/2450
17-9-2013	1420	16044	Chinese diplo	LSB/4+4/75
20-9-2013	1825	16104	Chinese Diplo	LSB/4+4/75/2450

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## **UTILITY ROUND-UP**



### **Voyager 1**

NASA's *Voyager 1* spacecraft officially is the first human-made object to venture into interstellar space. *Voyager 1* was launched on September 5, 1977. The 36-year-old probe is about 12 billion miles (19 billion km) from our sun. New and unexpected data indicate *Voyager 1* has been traveling for about one year through plasma, or ionized gas, present in the space between stars.

*Voyager's* main transmitter shines at a feeble 22 watts, which is comparable to a car-mounted police radio or -- in visible light -- a refrigerator light bulb. Though incredibly weak by the standards of modern wireless communications, *Voyager's* signal is astoundingly bright when compared to most natural objects studied by radio telescopes.

Now, that's what I call DX !!!

Source: NASA

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## **Emergency Action Messages**

We received a nice list of EAM logs from Dave moonlight0551 from Sydney, Australia. Thanks for that!

For those of you who are not familiar with these transmissions, please check

<http://www.udxf.nl/The%20USAF%20numbers%20broadcasts.pdf>

Freq.	date	utc	preamble	details	Freq.	date	utc	preamble	details
6712	04-09	0612	K5GEYG		8992	08-08	1559	K5YUSK	Mainsail repeat
8992	05-09	1050	K5GTL5	Mainsail with 30 chr EAM	8992	08-08	1943	K3HFBF	Mainsail for ?? 30 chr EAM
8992	05-09	1248	K3QP3J	Mainsail with 41 chr EAM	8992	08-08	2059	PTV32F	Mainsail with 82 chr EAM
8992	05-09	1255	K3AR7e	Mainsail for HAWK 22 30 chr EAM	8992	08-08	2129	PTV32F	Mainsail repeat
8992	05-09	1259	K3QP3J	repeat	8992	08-08	2134	FVNGEU	Mainsail with 30 chr EAM
8992	05-09	1305	K3CKWR	Mainsail with 30 chr EAM	8992	08-08	2141	FV5TG	Mainsail with 30 chr EAM
8992	05-09	1320	K5R5MF	Mainsail with 30 chr EAM	8992	08-08	2159	PTV32F	Mainsail repeat.
8992	05-09	1329	K5R5MF	repeat	8992	09-09	1233	O2G 33 HB	Mainsail Skyking DNA
8992	05-09	1335	K3H4KI	Mainsail with 30 chr EAM	8992	09-09	1343	IIW 43 CD	Mainsail Skyking DNA
8992	07-09	1250	K5GOKK	Mainsail with 30 chr EAM	8992	09-09	1441	K5LHME	Mainsail 30 chr EAM
8992	07-09	1258	K5XWV4	Mainsail with 30 chr EAM	8992	09-09	1453	K5IT2A	Mainsail 30 chr EAM
8992	07-09	1301	K5GOKK	Mainsail repeat	8992	09-09	1500	K5IT2A	repeat
8992	07-09	1316	K3RIRW	Mainsail for TOAMER 30 chr EAM	8992	09-09	1502	K5LHME	repeat
8992	07-09	1326	K5BRX4	Mainsail with 30 chr EAM	8992	09-09	1630	K5VYKM	Mainsail 30 chr EAM
8992	07-09	1329	K5BRX4	Mainsail repeat	8992	09-09	1824	P2M 24 PV	Mainsail Skyking DNA
8992	07-09	1332	K3C2FF	Mainsail for KILLER 30 chr EAM	8992	09-09	1926	K5GAP6	Mainsail 30 chr EAM
8992	07-09	1335	K5XWV4	Mainsail repeat	8992	09-09	1929	K5GAP6	repeat
8992	07-09	1337	K5GOKK	Mainsail repeat	8992	09-09	1952	K5UXCY	Mainsail 30 chr EAM
8992	07-09	1352	K34F3N	Mainsail for TOAMER 30 chr EAM	8992	09-09	1957	K5VA5D	Mainsail 30 chr EAM
8992	07-09	1359	K5BRX4	Mainsail repeat	8992	09-09	1959	K5UXCY	repeat
8992	07-09	1401	K5XWV4	Mainsail repeat	8992	09-09	2001	K5GAP6	repeat
8992	07-09	1406	K3QQXY	Mainsail with 23 chr EAM	8992	09-09	2029	K5VA5D	repeat
8992	07-09	1412	K32AET	Mainsail for KILLER 30 chr EAM	8992	09-09	2031	K5UXCY	repeat
8992	07-09	1429	K5BRX4	Mainsail repeat	8992	09-09	2033	K5GAP6	repeat
8992	07-09	1431	K5XWV4	Mainsail repeat	8992	09-09	2045	77N 45 LJ	Mainsail Skyking DNA
8992	07-09	1447	K354WN	Mainsail for TOAMER 30 chr EAM	8992	09-09	2053	K5U7DF	Mainsail 30 chr EAM
8992	07-09	1450	K5B5PZ	Mainsail with 30 chr EAM	8992	09-09	2059	K5U7DF	repeat
8992	07-09	1453	K5XYZR	Mainsail with 30 chr EAM	8992	09-09	2101	K5VA5D	repeat
8992	07-09	1459	K5XYZR	Mainsail repeat	8992	09-09	2103	FVP3SQ	Mainsail 30 chr EAM
8992	07-09	1501	K5B5PZ	Mainsail repeat	8992	09-09	2105	K5UXCY	repeat
8992	07-09	1503	K5BRX4	Mainsail repeat	8992	09-09	2115	K5VA5D	repeat
8992	07-09	1616	K35JZP	Mainsail for KILLER 30 chr EAM	8992	09-09	2117	K5UXCY	repeat
8992	07-09	1636	K3TUYF	Mainsail for KI LLER 30 chr EAM	8992	09-09	2119	K5GAP6	repeat
8992	07-09	1654	K3HVKP	Mainsail for TOAMER 30 chr EAM	8992	10-09	1233	O2G 33 HB	Mainsail Skyking DNA
8992	07-09	1800	V7O 00 FO	Mainsail Skyking DNA	8992	10-09	1343	IIW 43 CDá	Mainsail Skyking DNA
8992	07-09	1810	K36F4I	Mainsail for TOAMER 30 chr EAM	8992	10-09	1441	K5LHME	Mainsail 30 chr EAM
8992	07-09	1829	K3IANS	Mainsail for TOAMER 30 chr EAM	8992	10-09	1453	K5IT2Aá	Mainsail 30 chr EAM
8992	07-09	2002	K37532	Mainsail for ABSOLUTE ZERO 30 c	8992	10-09	1500	K5IT2A	repeat
8992	07-09	2016	K3XICH	Mainsail for ABSOLUTE ZERO 30 c	8992	10-09	1502	K5LHME	repeat
8992	07-09	2152	K3TAND	Mainsail for ?? 30 chr EAM	8992	10-09	1630	K5VYKM	Mainsail 30 chr EAM
8992	08-08	1242	K3UNS5	Mainsail for ?? 30 chr EAM	8992	10-09	1824	P2M 24 PV	Mainsail Skyking DNA
8992	08-08	1344	K32KXG	Mainsail for DAYBREAK?? 30 chr	8992	10-09	1926	K5GAP6	Mainsail 30 chr EAM
8992	08-08	1412	K3KLUN	Mainsail for TUNA 30 chr EAM	8992	10-09	1929	K5GAP6	repeat
8992	08-08	1419	WYS 19 EW	Mainsail Skyking DNA	8992	10-09	1952	K5UXCY	Mainsail 30 chr EAM
8992	08-08	1441	K32I4M	Mainsail for TUNA 30 chr EAM	8992	10-09	1957	K5VA5D	Mainsail 30 chr EAM
8992	08-08	1504	K5YUSK	Mainsail 30 chr EAM	8992	10-09	1959	K5UXCY	repeat
8992	08-08	1506	K37ORG	Mainsail for ABSOLUTE ZERO 30 c	8992	10-09	2001	K5GAP6	repeat
8992	08-08	1508	K3XGWH	Mainsail for TUNA 30 chr EAM	8992	10-09	2029	K5VA5D	repeat
8992	08-08	1526	K3UKHP	Mainsail for TUNA 30 chr EAM	8992	10-09	2031	K5UXCY	repeat
8992	08-08	1529	K3UKHP	Mainsail for TUNA 30 chr EAM re	8992	10-09	2033	K5GAP6	repeat
8992	08-08	1531	K5YUSK	Mainsail 30 chr EAM	8992	10-09	2045	77N 45 LJ	Mainsail Skyking DNA
8992	08-08	1534	K3U4AZ	Mainsail with 23 chr EAM	8992	10-09	2053	K5U7DF	Mainsail 30 chr EAM

Freq.	date	utc	preamble	deails
8992	10-09	2059	K5U7DF	repeat
8992	10-09	2101	K5VA5D	repeat
8992	10-09	2103	FVP3SQá	Mainsail 30 chr EAMá
8992	10-09	2105	K5UXCY	repeat
8992	10-09	2115	K5VA5D	repeat
8992	10-09	2117	K5UXCY	repeat
8992	10-09	2119	K5GAP6	repeat
8992	11-09	1324	YYD 24 VJ	Mainsail Skyking DNA
8992	11-09	1325	CWP 25 VJ	Mainsail Skyking DNA
8992	11-09	1406	EP2 06 SN	Mainsail Skyking DNA
8992	11-09	1417	IRB 17 RO	Mainsail Skyking DNA
8992	11-09	1636	CWP 36 NV	Mainsail Skyking DNA
8992	11-09	1648	FVWSBU	Mainsail for ?? 30 chr EAM
8992	11-09	1652	7ET2OR	Mainsail 30 chr EAM
8992	11-09	1708	PTGVT3	Mainsail 141 chr EAM
8992	11-09	1721	FVUAVN	Mainsail for ALEX 30 chr EAM
8992	11-09	1727	FVQ2PH	Mainsail for MEATHEAD?? 30 chr
8992	11-09	1730	PTGVT3	Mainsail 141 chr EAM repeat
8992	11-09	1841	FVJBOV	Mainsail 30 chr EAM
8992	11-09	2024	J64 24 QY	Mainsail Skyking DNA
11175	12-09	1420	WAMQ	AUDIO KIT msg to HAMEL 10
8992	13-09	1436	FVMKBH	Mainsail with 30 chr EAM
8992	13-09	1455	FVIRCP	Mainsail for WIRE COURIER?? 30
8992	13-09	1809	FVQIBC	Andrews for AMONG?? 30 chr EAM
8992	13-09	1827	FVP5OQ	Mainsail for STUT 30 chr EAM
8992	13-09	1832	FKV7NP	Mainsail with 34 chr EAM
8992	13-09	1843	FVYDYV	Mainsail for AMONG?? 30 chr EAM
8992	13-09	1849	FVRTNK	Mainsail for STUT 30 chr EAM
8992	13-09	1855	FVWHYU	Mainsail for MISCONSTRUCTION??
8992	13-09	1900	FVI547	Mainsail for STUT 30 chr EAM
8992	13-09	1903	FKV7NP	Mainsail with 34 chr EAM
8992	13-09	2001	4WU 01 CX	Mainsail Skyking DNA
8992	13-09	2007	FVXF54	Mainsail for DIVAN?? 30 chr EAM
8992	13-09	2009	FG2 09 PS	Mainsail Skyking DNA
8992	13-09	2037	FVQRWV	Mainsail for DIVAN?? 30 chr EAM
8992	13-09	2117	7EMASO	Mainsail 30 chr EAM
11175	13-09	1330		AUDIO KIT standing by for traff
11175	13-09	1333	JE3 T33 NV	Mainsail - SkyKing
11175	13-09	1335	CF9Q	HAMEL 11 this is AUDIO KIT in r
11175	13-09	1342	FVFWJL	AUDIO KIT with EAM
11175	13-09	1401	FVFWJL	39 char EAM from AUDIO KIT to H
11175	13-09	1404		AUDIO KIT Standing-by for traff
11175	13-09	1407	ERTC	AUDIO KIT to HAMEL 10
11175	13-09	1405	ERTC	HAMEL 12 this is AUDIO KIT in r
11175	13-09	1430	FVFWJL	AUDIO KIT with EAM
11175	13-09	1436	Y9AN	AUDIO KIT to HAMEL 12
11175	13-09	1449		HAMEL 12 calls Lajes Control, w
11175	13-09	1459		HAMEL 11 flight, this is AUDIO
11175	13-09	1500	FVFWJL	AUDIO KIT with EAM
11175	13-09	1513	7RRP	Skymaster this is HAMEL 12 with
11175	13-09	1520	QDLC	HAMEL 12 this is AUDIO KIT in r
11175	13-09	1521	AZZ4	HAMEL 12, AUDIO KIT. Message AZ
11175	13-09	1530	FVFWJL	AUDIO KIT with EAM
11175	13-09	1534	65I9	HAMEL 12 this is AUDIO KIT in r
11175	13-09	1550	KBKL	HAMEL 11 this is AUDIO KIT in r
11175	13-09	1600	FVFWJL	AUDIO KIT with EAM
11175	13-09	1605	44LF	Skymaster this is HAMEL12 with
11175	13-09	1605	44LF	HAMEL 12 this is AUDIO KIT in r
11175	13-09	1620	HMOL	HAMEL 11 this is AUDIO KIT in r
11175	13-09	1629	UTL T28 WU	SkyKing
11175	13-09	1635	KQ5T	AUDIO KIT in receipt message, 1
11175	13-09	1635	QBR T35 BC	Mainsail - SkyKing
11175	13-09	1637		HAMEL 11 this is AUDIO KIT, cop
11175	13-09	1657	IL4M	HAMEL 11 this is AUDIO KIT in r
11175	13-09	1659		HAMEL 11 this is AUDIO KIT. Hav

Freq.	date	utc	preamble	deails
11175	13-09	1700	FVFWJL	HAMEL 11, message was FVFWJL an
11175	13-09	1705	3IMV	HAMEL 12 this is AUDIO KIT in r
11175	13-09	2155	NQH T55 LS	Mainsail - SkyKing
11175	13-09	2159	FVFXN	Mainsail - EAM
11175	15-09	1556	PTKIGW	Mainsail - 27-char EAM
11175	15-09	1600	PTOZMR	Mainsail - 40-char EAM
11175	15-09	1603	7ELSIG	Mainsail - 27-char EAM
8992	15-09	1331	FVMVQM	Mainsail for ?? 30 chr EAM
8992	15-09	1336	FV2HCV	Mainsail for AMPEX 30 chr EAM
8992	15-09	1342	FVUK37	Mainsail for AMPEX 30 chr EAM
8992	15-09	1348	FVQ4QK	Mainsail for AMPEX 30 chr EAM
8992	15-09	1354	FV5RRT	Mainsail for AMPEX 30 chr EAM
8992	15-09	1404	7E06GU	Mainsail 30 chr EAM
8992	15-09	1407	7EZO2C	Mainsail 30 chr EAM
8992	15-09	1435	7E43GR	Mainsail 30 chr EAM
8992	15-09	1438	7E7MWC	Mainsail 30 chr EAM
8992	15-09	1441	7E5AWY	Mainsail 30 chr EAM
8992	15-09	1456	7ELSI6	Mainsail 30 chr EAM
8992	15-09	1459	7ELSI6	repeat
8992	15-09	1526	YYW 26 J?	Mainsail Skyking DNA
8992	15-09	1529	7ELSI6	repeat
8992	15-09	1555	PTKTGW	Mainsail 27 chr EAM
8992	15-09	1600	PTOZMR	Mainsail 40 chr EAM
8992	15-09	1603	PTKTGW	repeat
8992	15-09	1605	7ELSI6	repeat
8992	15-09	1622	7EHGBD	Mainsail 30 chr EAM
8992	15-09	1629	7EHGBD	repeat
8992	15-09	1631	PTOZMR	repeat
8992	15-09	1634	7EWSXY	Mainsail 30 chr EAM
8992	15-09	1635	PTKTGW	repeat
8992	17-09	1124	FVXXFB	Mainsail with 34 chr EAM
8992	17-09	1241	HKY 41 VZ	Mainsail Skyking DNA
8992	17-09	1243	HLV43 ??	Mainsail Skyking DNA
8992	17-09	1245	22X 45 ZL	Mainsail Skyking DNA
8992	17-09	1247	HLV 47 FC	Mainsail Skyking DNA
8992	17-09	1248	22X 48 FC	Mainsail Skyking DNA
8992	17-09	1250	HLV 50 ??	Mainsail Skyking DNA
8992	17-09	1252	22X 52 XT	Mainsail Skyking DNA
8992	17-09	1253	7EHET4	Mainsail 30 chr EAM
8992	17-09	1254	HLV 54 ?S	Mainsail Skyking DNA
8992	17-09	1255	7EHET4	repeat
8992	17-09	1257	7EJGIS	Mainsail 30 chr EAM
8992	17-09	1300	7EJGIS	repeat
8992	17-09	1302	7EHET4	repeat
8992	17-09	1312	NLY 12 ME	Mainsail Skyking DNA
8992	17-09	1312	??2 12 ME	Mainsail Skyking DNA
8992	17-09	1404	7EKNB6	Mainsail 30 chr EAM
8992	17-09	1406	7ELQL6	Mainsail 30 chr EAM
8992	17-09	1428	7EHRCU	Mainsail 30 chr EAM
8992	17-09	1430	7EBGM2	Mainsail 30 chr EAM
8992	17-09	1432	7E52HX	Mainsail 30 chr EAM
8992	17-09	1446	7E7S40	Mainsail 30 chr EAM
8992	17-09	1500	7E7S40	repeated
8992	17-09	1500	7E52HX	repeated
8992	17-09	1500	7EBGM2	repeated
8992	17-09	1523	PTMJNN	Mainsail 27 chr EAM
8992	17-09	1527	7EBXTV	Mainsail 30 chr EAM
8992	17-09	1530	7EBXTV	repeated
8992	17-09	1530	PTM5NN	repeated
8992	17-09	1530	7E7S40	repeated
8992	17-09	1530	7E52HX	repeated
8992	17-09	1530	7EBXTV	repeated
8992	17-09	1548	7EB3QU	Mainsail 30 chr EAM
8992	17-09	1550	PTMJNN	repeat
8992	17-09	1552	7E2U42	Mainsail 30 chr EAM

Freq.	date	utc	preamble	deails
8992	17-09	1554		1554-1630 more repeats
8992	17-09	1721	6HY 21 J	Mainsail Skyking DNA
8992	17-09	1846	NLY 46?C	Mainsail Skyking DNA
8992	17-09	1946	FVHSDJ	Mainsail for SARGO 97 30 chr EA
8992	17-09	2004	7E6ZLV	Mainsail 30 chr EAM
8992	18-09	1342	7EI3WO	Mainsail with 30 chr EAM
8992	18-09	1349	6NN 49 SN	Mainsail Skyking DNA
8992	18-09	1400	7EI3WO	repeat
8992	18-09	1413	7EQ37R	Mainsail with 30 chr EAM
8992	18-09	1419	7IC 19 AV	Mainsail Skyking DNA
8992	18-09	1651	UYZ 51 NX	Mainsail Skyking DNA
8992	18-09	1758	STV 58 NT	Mainsail Skyking DNA
8992	18-09	1809	FVSBZW	Mainsail with 30 chr EAM
8992	18-09	1815	FVSBZW	Mainsail for APRIL for ATRA 30
8992	18-09	1823	FVC2YA	Mainsail for APRIL for ATRA 30
8992	22-09	1304	TGZGQK	Mainsail for MANDU 30 chr EAM
8992	22-09	1316	TG22U6	Mainsail for ?? 30 chr EAMM
8992	22-09	1323	Y2N 23 ??	Mainsail Skyking DNA
8992	22-09	1337	TGT7XB	Mainsail for ?? 30 chr EAM
8992	22-09	1508	PT6NXD	Mainsail 153 chr EAM
8992	22-09	1600	TGCUXG	Mainsail for AGIO 30 chr EAM
8992	22-09	1638	PTE3YU	Mainsail 153 chr EAM
8992	22-09	1847	K7B 47 RK	Mainsail Skyking DNA
8992	22-09	1938	TGTHAV	Mainsail for AGIO 30 chr EAM
8992	22-09	1945	JF7 45 MI	Mainsail Skyking DNA
8992	22-09	1947	TGEGE4	Mainsail 34 chr EAM
8992	22-09	1951	TGEGE4	repeat
8992	22-09	2004	TGPYK2	Mainsail for AGIO 30 chr EAM
8992	25-09	1229	PTPTJA	Mainsail 40 chr EAM
8992	25-09	1232	KVH 32 ZW	Mainsail Skyking DNA
8992	25-09	1241	ELE 41 JG	Mainsail Skyking DNA
8992	25-09	1241	DDX 41 JG	Mainsail Skyking DNA
8992	25-09	1300	PTPTJA	repeat
8992	25-09	1325	RYV 25 TL	Mainsail Skyking DNA
8992	25-09	1353	TGTJHN	Mainsail for ?? 30 chr EAM
8992	25-09	1403	TG6AYJ	Mainsail 34 chr EAM
8992	25-09	1622	TGEKWP	Mainsail 39 chr EAM
8992	25-09	1625	7ERRV7	Mainsail 30 chr EAM
8992	25-09	1627	TGG6ZO	Mainsail 34 chr EAM
8992	25-09	1629	7EF32I	Mainsail 30 chr EAM
8992	25-09	1700	7EF32I	repeat
8992	25-09	1702	7ERRV7	repeat

Freq.	date	utc	preamble	deails
8992	25-09	1708	TG4ZNE	Mainsail for SOFA?? 30 chr EAM
8992	25-09	1726	TG3GFU	Mainsail for SOFA?? 30 chr EAM
8992	25-09	1728	TG3GFU	repeat
8992	25-09	1730	7EF32I	repeat
8992	25-09	1732	7ERRV7	repeat
8992	25-09	1900	7EAO4D	Mainsail 30 chr EAM
8992	25-09	1902	7EY7GI	Mainsail 30 chr EAM
8992	27-09	1441	TGXPPE	Mainsail with 30 chr EAM
8992	27-09	1446	TGAJD5	Mainsail for ?? and for ?? 30 c
8992	27-09	1534	TGCNBY	Mainsail; with 50 chr EAM
8992	27-09	1639	3P3 39 LP	Mainsail Skyking DNA
8992	27-09	1549	7EVZ24	Mainsail 30 chr EAM
8992	27-09	1942	7E73PO	Mainsail 30 chr EAM
8992	28-09	1359	5OG 59 EJ	Mainsail Skyking DNA
8992	28-09	1401	5OG01 TE	Mainsail Skyking DNA(Male)
8992	28-09	1401	5OG01 TE	Mainsail Skyking DNA(Female)
8992	28-09	1438		Mainsail speaks to BLOODHOUND 4
8992	28-09	1448	7EZ2IV	Mainsail 30 chr EAM
8992	28-09	1450	KBL 50 YB	Mainsail Skyking DNA
8992	28-09	1503	7EQBFG	Mainsail 30 chr EAM
8992	28-09	1548	TGGLIU	Mainsail for DOVE 65 30 chr EAM
8992	28-09	1631	7EFZ2F	Mainsail 30 chr EAM
8992	28-09	1721	TMD 21 XW	Mainsail Skyking DNA
8992	28-09	1836	7E5YT6	Mainsail 30 chr EAM
8992	28-09	2042	TGCVDB	Mainsail for BACKWARDS 30 chr E
8992	28-09	2052	I6H 52 I?	Mainsail Skyking DNA
8992	28-09	2132	TG4JU2	For ?? 30 chr EAM
8992	28-09	2213	7EPKPF	Mainsail 30 chr EAM
8992	29-09	1201	APE 01 KW	Mainsail Skyking DNA
8992	29-09	1313	TGXMS3	Mainsail for ?? and for ?? 30 c
8992	29-09	1402	VYJKH6	Mainsail 30 chr EAM(looks like
8992	29-09	1411	VYGV76	Mainsail 30 chr EAM
8992	29-09	1415	VY67G	Mainsail 30 chr EAM
8992	29-09	1422	VYOT6U	Mainsail 30 chr EAM
8992	29-09	1553	FEN 53 CH	Mainsail Skyking DNA
8992	29-09	1612	TGXTWU	Mainsail 41 chr EAM
8992	29-09	1619	TGEFEC	Mainsail 30 chr EAM
8992	29-09	1740	TGYK22	Mainsail 30 chr EAM
8992	29-09	1750	TGXW2N	Mainsail 30 chr EAM
8992	29-09	1812	VYKHBR	Mainsail 30 chr EAM
8992	29-09	1820	VY352W	Mainsail 30 chr EAM



## **Unid stations**

Unid numbers station, copied by PPA and earlier by BCI.

18256 kHz, 10-09, CW: 359 359 359 00000

18678 kHz, 25-03, CW 359 359 359 00000

Don copied several ditters. Could there be a connection to HM01?

13435 kHz, 14-09, 0654 UTC: Ditter, very loud signal, continuous dits 140654

11530 kHz, 22-09, 1807 UTC: This signal came up immediately after HM01 went off the air. 5 dits repeated over and over.  
Still going at 1815 UTC

11530 kHz, 24-09, 1806 UTC: Another appearance of 5 dits repeated over and over. Appeared when HM01 concluded its transmission.



## LOGS SECTION

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
---	10-9-2013	Tue	0931	18256	359 359 359 00000	CW	(PPA)
---	23-9-2013	Mon	1240	4189	Unid marker "M"	CW	(JPL-FNL)
---	25-9-2013	Wed	0932	18678	359 359 359 00000	CW	(BCI)
CHN	6-9-2013	Fri	1744	16284	Chinese diplo RKST RKST RKST DE QRXM QRXM QRXM QSA+	LSB/4+4/75/2450	(DK8OK)
CHN	7-9-2013	Sat	1928	7761	Chinese diplo	LSB/4+4/75/2450	(PPA)
CHN	17-9-2013	Tue	1420	16044	Chinese diplo	LSB/4+4/75	(BCI)
CHN	20-9-2013	Fri	1825	16104	Chinese Diplo	LSB/4+4/75/2450	(MCO)
CUB	17-9-2013	Tue	1600	19151.6	Cuban Diplo calling and working CLP44	PSK31	(MCO)
CUB	20-9-2013	Fri	1404	19060	CLP3 Cuban embassy Moscow "CLP1 DE CLP3 QSV"	CW	(PPA)
DPRK	2-9-2013	Mon	0800	16320	MFA Pyongyang	DPRK-ARQ	(Dan)
DPRK	3-9-2013	Tue	0800	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	4-9-2013	Wed	0800	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	4-9-2013	Wed	1300	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	6-9-2013	Fri	0800	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	7-9-2013	Sat	0847	16320	N. Korean MFA	DPRK-ARQ 600/600	(Dan)
DPRK	8-9-2013	Sun	0800	16320	N. Korean MFA	DPRK-ARQ 600/600	(Dan)
DPRK	8-9-2013	Sun	0800	16320	N. Korean MFA	DPRK-ARQ 600/600	(Dan)
DPRK	10-9-2013	Tue	0800	16320	N.Korean MFA	DPRK-ARQ 600/600	(Dan)
DPRK	12-9-2013		0800	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	12-9-2013		0903	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	12-9-2013		1202	16320	N. Korean diplo. Probably an embassy	DPRK-ARQ 600/600	(Dan)
DPRK	13-9-2013	Fri	0800	16320	MFA Pyongyang	DPRK-ARQ 600/600	(Dan)
DPRK	17-9-2013	Tue	0800	16320	N. Korean diplo	DPRK-ARQ 600/600	(Dan)
DPRK	17-9-2013	Tue	0810	16121	N. Korean diplo	DPRK-ARQ 600/600	(Dan)
DPRK	23-9-2013	Mon	0810	18525	N. Korean diplo	DPRK-ARQ 600/600	(EW)
DPRK	23-9-2013	Mon	0810	20412	N. Korean diplo	DPRK-ARQ 600/600	(EW)
E06	5-9-2013	Thu	2030	5186	891 352 15 = 66821	USB	(HFD)
E06	11-9-2013	Wed	1920	4588	218 0 distorted audio	USB	(HFD)
E06	11-9-2013	Wed	2020	4060	218 0 distorted audio	USB	(HFD)
E06	15-9-2013	Sun	1120	7564	218 0	USB	(HFD)
E06	15-9-2013	Sun	1220	6853	218 0	USB	(HFD)
E06	19-9-2013	Thu	0500	12210	354	USB	(HFD)
E06	20-9-2013	Fri	0018	4496	Msg	AM	(Dec)
E06	20-9-2013	Fri	0500	12210	354 278 100 = 12479	USB	(HFD)
E06	20-9-2013	Fri	0600	14830	354	USB	(HFD)
E06	20-9-2013	Fri	2130	5197	634 796 15 = 52781	USB	(HFD)
E07	1-9-2013	Sun	0300	16437	Barely audible	AM	(Dan)
E07	2-9-2013	Mon	1900	12108	172 0	USB	(HFD)
E07	2-9-2013	Mon	1920	10708	172 0	USB	(HFD)
E07	22-9-2013	Sun	1700	13527	526 847 204 = 04### strong carrier w	USB	(HFD)
E07	22-9-2013	Sun	1730	12227	526 1723	USB	(HFD)
E07	22-9-2013	Sun	1800	10672	1753 strong carrier inaudible modula	USB	(HFD)
E07	28-9-2013	Sat	0827	12153	EE O/M reading 5FG message ending 000 000 v	USB	(PPA)
E07	30-9-2013	Mon	1920	10708	172/00	USB	(MPJ)
E07a	7-9-2013	Sat	0800	11153	114 0	USB	(HFD)
E07a	14-9-2013	Sat	0820	12153	114 0	USB	(HFD)
E11	2-9-2013	Mon	0830	10690	649/00	USB	(HFD)
E11	2-9-2013	Mon	0900	9399	534/00	USB	(HFD)
E11	2-9-2013	Mon	1110	13375	950/40	USB	(HFD)
E11	2-9-2013	Mon	1540	15915	228/00	USB	(MPJ)
E11	2-9-2013	Mon	1710	5194	959/30	USB	(HFD)
E11	9-9-2013	Mon	1540	15915	222/33 = 73410	USB	(HFD)
E11	10-9-2013	Tue	0645	10800	517/00	USB	(HFD)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
E11	10-9-2013	Tue	0710	10221	635/34 = 42099	USB	(HFD)
E11	10-9-2013	Tue	0745	14575	33?/? weak	USB	(HFD)
E11	10-9-2013	Tue	1045	7449	469/00	USB	(HFD)
E11	12-9-2013		1730	9371	416/00	USB	(GHn)
E11	13-9-2013	Fri	2000	7377	576/00	USB	(HFD)
E11	14-9-2013	Sat	1445	4909	287/00	USB	(HFD)
E11	15-9-2013	Sun	1542	15915	222/33 Attention + msg	USB	(MCO)
E11	16-9-2013	Mon	0450	6304	416/00	USB	(HFD)
E11	18-9-2013	Wed	1155	15915	718/00	USB	(HFD)
E11	30-9-2013	Mon	1540	15915	228/00	USB	(MPJ)
E11a	2-9-2013	Mon	1710	5194	959/30	USB	(MPJ)
E11a	3-9-2013	Tue	1810	13455	985/10 Attention 39258 35085 93163 46018 38719 98981 92423 05538 46700 56266 out	USB	(MPJ)
E11a	5-9-2013	Thu	1730	9371	415/36 = 23067	USB	(HFD)
E11a	6-9-2013	Fri	2000	7377	577/35 Attention + msg	USB	(GU/MPJ)
E11a	10-9-2013	Tue	1400	13375	987/10 = 49587	USB	(HFD)
E11a	10-9-2013	Tue	1810	13455	988/10 = 93574	USB	(HFD)
E11a	14-9-2013	Sat	1400	13375	987/10 = 63253	USB	(HFD)
E11a	17-9-2013	Tue	0745	14575	333/33 Attention + msg	USB	(FYM)
E11a	19-9-2013		0745	14575	333/33 Attention 5FGs	USB	(FYM)
E11a	20-9-2013	Fri	1710	5190	Attention! then numbers.	USB	(Dec)
E11a	24-9-2013	Tue	1810	13455	983/10 Attention 69015 33164 92685 19314 20115 98141 84155 66865 34839 27418	USB	(GHn)
E11a	24-9-2013	Tue	1810	13455	983/10 Attention 69015 33164 92685 19314 20115 98141 84155 66865 34839 27418	USB	(GHn)
E11a	30-9-2013	Mon	1110	13375	955/26 Attention 23035 99564 65352 47526 59596 ... 62674 35859 95995 51619 95640	USB	(MPJ)
E17z	5-9-2013	Thu	0800	14260	674 213 5 = 57024	USB	(HFD)
E17z	5-9-2013	Thu	0810	12930	674	USB	(HFD)
EGY	21-9-2013	Sat	1646	16073	MFA Cairo clg selcall 33318	Codan 80bd chirp mode/80/2800	(PPA)
EGY	28-9-2013	Sat	0936	16061.7	MFA Cairo clg KKXT Nairobi	SITOR-A 100/170	(PPA)
EGY	28-9-2013	Sat	2050	11334.7	MFA Cairo clg RCVB Kinshasa	SITOR-A 100/170	(PPA)
G06	2-9-2013	Mon	0800	6774	215 0	USB	(HFD)
G06	2-9-2013	Mon	1700	4569	564 193 59 = 54431	USB	(HFD)
G06	2-9-2013	Mon	1800	5424	564 193 59 = 54491	USB	(HFD)
G06	2-9-2013	Mon	1800	5424	564 193 59 54431 06217 86785 56955 47506 ... 67567 99420 81087 05410 41320 193 59 00000	USB	(MPJ)
G06	6-9-2013	Fri	2000	7377	239 0	USB	(HFD)
G06	6-9-2013	Fri	2000	7377	239 239 239 00000. Mixed with E11a msg	USB	(GU/MPJ)
G06	6-9-2013	Fri	2000	7377	239 239 239 00000	USB	(GHn)
G06	12-9-2013	Thu	1830	5934	579 362 15 = 92032	USB	(HFD)
G06	13-9-2013	Fri	1930	5442	947 852 15 = 66281	USB	(HFD)
G06	13-9-2013	Fri	1930	5442	947 852 15 66281 02881 27932 07381 20312 88398 93728 64532 02877 09833 93361 72312 22389 01621 21882 852 15 00000	AM	(GHn)
G06	16-9-2013	Mon	1905	5127	349 349 349 00000	AM	(GHn)
G11	3-9-2013	Tue	1755	5815	270/00	USB	(MPJ)
G11	6-9-2013	Fri	2000	6433	262/00	USB	(HFD)
G11	6-9-2013	Fri	2000	6433	262	USB	(MPJ)
G11	13-9-2013	Fri	1325	5815	294/32 = 44553	USB	(HFD)
G11	13-9-2013	Fri	2000	6433	262/00	USB	(GHn)
G11	21-9-2013	Sat	0013	5815	i.p.	USB	(Dec)
G11	29-9-2013	Sun	1755	5815	272/-0 Poor audio on one figure from robot. Dash is either 3 or 4. 8850- 97867 5699- 9766- 08096 ... 99906 67155 85505 07257 7-900	USB	(MPJ)
G11	29-9-2013	Sun	2000	6433	262/00	USB	(MPJ/GHn)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
HM01	22-8-2013		0558	14375	New grps 35776 etc. Vy weak	AM/RDFT	(DSch)
HM01	22-8-2013		0957	11635	Voice cutting in and out	AM/RDFT	(DSch)
HM01	22-8-2013		0957	12180	Too wk to copy.	AM/RDFT	(DSch)
HM01	22-8-2013		1559	11435	Back to grps 56801 22574 15441 50182 08444 51835	AM/RDFT	(DSch)
HM01	22-8-2013		1702	11530	Hard to copy	AM/RDFT	(DSch)
HM01	22-8-2013		1758	11635	56801 etc	AM/RDFT	(DSch)
HM01	22-8-2013		2057	16180	56801 etc	AM/RDFT	(DSch)
HM01	22-8-2013		2158	17480	56801 etc	AM/RDFT	(DSch)
HM01	22-8-2013		2255	8135	Wrong freq. Voice distorted. Should be on 17540 kHz	AM/RDFT	(DSch)
HM01	30-8-2013		1016	5855	Female voice, Spanish, 5FGs alternating with RDFT data //9155	AM/RDFT	(steve)
HM01	30-8-2013		1016	9155	Female voice, Spanish, 5FGs alternating with RDFT data //5855	AM/RDFT	(steve)
HM01	1-9-2013	Sun	1024	5855	Spanish YL alternating with RDFT data - 5 fig groups	AM/RDFT	(E2601)
HM01	1-9-2013	Sun	1601	11435	56801 etc	AM/RDFT	(DSch)
HM01	1-9-2013	Sun	1657	11530	56801 etc	AM/RDFT	(DSch)
HM01	1-9-2013	Sun	1758	11635	56801 etc	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	1038	5855	56801 etc	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	1038	9155	56801 etc	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	1608	11635	Xmtr tuned 1608. 56801 etc	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	1653	11530	56801 etc	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	1758	11635	Barely hrd voice, sig covered by French lang bcst	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	2100	11635	56801 etc vy wk. Better when French lang bcst goes off	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	2100	11635	Female voice, Spanish, 5FGs alternating with RDFT data	AM/RDFT	(steve)
HM01	2-9-2013	Mon	2200	10715	xmtr tuned 2158. 56801 etc	AM/RDFT	(DSch)
HM01	2-9-2013	Mon	2219	10715	Female voice, Spanish, 5FGs alternating with RDFT data	AM/RDFT	(steve)
HM01	3-9-2013	Tue	0500	14375	Xmtr tuned but no tfc	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	0903	12120	56801 etc	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	1033	12180	56801 etc. Nil hrd on 11635	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	1611	11435	56801 etc	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	1657	11530	56801 etc	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	1758	11635	56801 etc	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	2059	16180	56801 etc	AM/RDFT	(DSch)
HM01	3-9-2013	Tue	2200	17480	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	0723	9330	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	1044	5855	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	1044	9155	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	1611	11435	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	1658	11530	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	1809	11635	56801 etc	AM/RDFT	(DSch)
HM01	4-9-2013	Wed	2257	10715	56801 etc at 2208. Ended up with 15441 at 2257	AM/RDFT	(DSch)
HM01	5-9-2013		0540	14375	56801 etc	AM/RDFT	(DSch)
HM01	5-9-2013		0719	13435	56801 etc	AM/RDFT	(DSch)
HM01	5-9-2013		0958	11635	tape hung up briefly at 0958. 56801 etc at 0959	AM/RDFT	(DSch)
HM01	5-9-2013		0958	12180	tape hung up briefly at 0958. 56801 etc at 0959	AM/RDFT	(DSch)
HM01	5-9-2013		1659	11435	56801 etc	AM/RDFT	(DSch)
HM01	5-9-2013		1659	11530	tuned xmtr 1659. 56801 etc	AM/RDFT	(DSch)
HM01	5-9-2013		1759	11635	Starts with 50182 08444 51835 then 56801 etc	AM/RDFT	(DSch)
HM01	5-9-2013		2100	16180	tuned xmtr 2059. 56801 etc	AM/RDFT	(DSch)
HM01	5-9-2013		2201	17480	tuned xmtr 2200. 56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	0508	5855	Sounds as if there's some echo on the voice announcement.	AM/RDFT	(KC2TTK)
HM01	6-9-2013	Fri	0548	5855	56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	0600	10345	56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	0816	5855	56901 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	0816	9065	56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	1033	9155	56801 etc	AM/RDFT	(DSch)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
HM01	6-9-2013	Fri	1602	11435	56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	1657	11530	56801 etc. Tape starts over at 1801	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	1803	11635	56801 etc. Stopped then restarted at 1804	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	2117	11635	56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	2159	10715	56801 etc	AM/RDFT	(DSch)
HM01	6-9-2013	Fri	2310	11530	Started 56801 then off.	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	0501	14375	Barely heard RDFT, voice is uncopy	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	0603	11635	Hrd 15441 & RDFT, very weak	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	0603	14375	Hrd 15441 & RDFT, very weak	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	1034	12180	56801 etc	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	1656	11530	Xmtr tuned 1656. Started 56801, stopped, then 51835, 56801 etc	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	2041	16180	Xmtr tuned 2041, 56801 etc	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	2103	16180	072103, carrier off 2104. Checked again 17 2138 UTC 56801 etc	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	2156	17480	Xmtr tuned 2156, 56801 etc	AM/RDFT	(DSch)
HM01	7-9-2013	Sat	2200	17480	56801 22574 15441 50182 08444 51825	AM/RDFT	(HS)
HM01	7-9-2013	Sat	2256	17540	message IDs 56801 22574 15441 50182 08444 51865	AM/RDFT	(HS)
HM01	7-9-2013	Sat	2256	17540	56801 22574 15441 50182 08444 51825	AM/RDFT	(HS)
HM01	7-9-2013	Sat	2257	17540	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	0517	5855	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	0851	9065	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	0900	9240	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	1047	5855	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	1047	9155	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	1555	11435	56801 briefly off at 1556. Back on with 56801 etc at 1602.	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	1658	11530	Xmtr tuned 1658. Started with 51835 & stopped; then sent 56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	1757	11635	Xmtr tuned 1757. 56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	2100	11635	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	2200	10715	56801 etc	AM/RDFT	(DSch)
HM01	8-9-2013	Sun	2256	11530	Xmtr tuned 2256. Starts with 50182 tehen with 56801 etc	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	0631	5855	DGI Havana CUB. 05445 50182 08445	AM/RDFT	(LG2)
HM01	9-9-2013	Mon	0727	9330	56801 etc	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	0850	9065	56801 etc	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	0903	9240	56801 etc	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	1557	11435	56801 etc. Tapes starting over at 1659	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	1701	11530	56801 etc	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	1816	11635	56801 etc	AM/RDFT	(DSch)
HM01	9-9-2013	Mon	2300	11530	56801 etc	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	0845	11635	56801 etc	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	0900	12120	56801 etc	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	1043	12180	56801 etc Nil hrd on //11635 kHz.	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	1154	11435	Xmtr tuned at 1554. 56801 etc	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	1657	11530	Xmtr tuned at 1657. Tape messed up, voice has echo at 1700.	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	2101	16180	Xmtr tuned at 2101. Carrier off at 2105	AM/RDFT	(DSch)
HM01	10-9-2013	Tue	2156	17480	56801 etc	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	1013	5855	56801 etc	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	1013	9155	56801 etc	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	1621	11435	56801 etc	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	1717	11530	56801 etc	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	1758	11635	56801 etc	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	2108	11635	New Nbrs 58117 86133 16187 21203 13247 37034	AM/RDFT	(DSch)
HM01	11-9-2013	Wed	2205	10715	58117 etc	AM/RDFT	(DSch/Rill)
HM01	12-9-2013		0832	11635	56801 etc	AM/RDFT	(DSch)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
HM01	12-9-2013		1004	11635	Voice uncopy, RDFT vy weak. Better at 1023 UTC 56801 etc	AM/RDFT	(DSch)
HM01	12-9-2013		1615	11435	58118 86134 16188 21204 13248 37035 121615. Changing of 5th digit one-up has resumed.	AM/RDFT	(DSch)
HM01	12-9-2013		1657	11530	Starts with 37035 then stops 1657. Now back to 56801 etc at 1700. Off at 121756	AM/RDFT	(DSch)
HM01	12-9-2013		1758	11635	Starts with 08444 then stops 1758, then 58118 86134 16188 21204 13248 37035	AM/RDFT	(DSch)
HM01	12-9-2013		2100	16180	58118 etc	AM/RDFT	(DSch)
HM01	12-9-2013		2100	16180	37035 58118 86134 16188 21204 13248	AM/RDFT	(Dan)
HM01	12-9-2013		2200	17480	58118 etc	AM/RDFT	(DSch)
HM01	13-9-2013	Fri	0949	9240	58118 etc	AM/RDFT	(DSch)
HM01	13-9-2013	Fri	1003	5855	58118 etc	AM/RDFT	(DSch)
HM01	13-9-2013	Fri	1003	9155	58118 etc on both freqs	AM/RDFT	(DSch)
HM01	13-9-2013	Fri	1839	11635	Diff grps 44041 86135 17761 21205 24541 56711	AM/RDFT	(DSch)
HM01	13-9-2013	Fri	1853	11635	in progress. Female synthesized voice in Spanish with a five digit number in between RDFT data	AM/RDFT	(Steve)
HM01	13-9-2013	Fri	2101	11635	44041 86135 17761 21205 24541 56711	AM/RDFT	(DSch)
HM01	13-9-2013	Fri	2200	10715	44041 86135 17761 21205 24541 56711	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	0651	14375	Sig vy wk, uncopy 140644 440.. ..... 17761 21205 ...41 56711	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	0702	13435	Sig vy wk .4041 ..... Uncopy	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	1057	11635	44041 8635 17761 21205 24541 56711	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	1057	12180	44041 8635 17761 21205 24541 56711	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	1603	11435	44042 86136 17762 21206 254542 56712	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	1700	11530	44042 86136 17762 21206 24542 56712	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	1804	11635	Starts with 17762 21206 24542 56712 44042 86136	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	2123	16180	17762 21206 245r42 56712 44042 86136	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	2156	17480	44042 86136 17762 21206 24542 56712	AM/RDFT	(DSch)
HM01	14-9-2013	Sat	2255	17540	RDFT transmission with no voice on and off until 2259 UTC. At 2300 UTC preamble groups of 5FGs alternating with RDFT	AM/RDFT	(steve)
HM01	14-9-2013	Sat	2300	17540	44042 86136 17762 21206 24542 56712	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	0504	5855	44042 86136 17762 21206 24542 56712	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	0644	10345	44042 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	0700	5855	44042 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	0700	9330	44042 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	1030	9155	44042 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	1601	11435	44043 86137 17763 21207 24543 56713	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	1700	11530	44043 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	1700	11530	5FGs in Spanish followed by RDFT messages	AM/RDFT	(Rill)
HM01	15-9-2013	Sun	1759	11635	Up early. First two minutes 5FGs in SS into new HMO1 format with one group then digital mode.	AM/RDFT	(Rill)
HM01	15-9-2013	Sun	1800	11635	44043 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	2100	11635	First two minutes 5FGs in SS into new HMO1 format with one group then digital mode.	AM/RDFT	(Rill)
HM01	15-9-2013	Sun	2100	11635	44043 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	2200	10715	44043 etc	AM/RDFT	(DSch)
HM01	15-9-2013	Sun	2200	10715	i.p.	AM/RDFT	(Rill)
HM01	15-9-2013	Sun	2230	11530	Weak but audible SS voice with carrier	AM/RDFT	(RH/ER)
HM01	15-9-2013	Sun	2300	11530	44043 etc	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	0553	5855	44043 86137 17763 21207 24543 56713	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	0600	10345	44043 etc	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	0948	5855	56801 22574 15441 50182 08444 51835	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	0948	9240	56801 22574 15441 50182 08444 51835	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	0958	9155	5855 up first followed by 9155 moment later. 56801 etc	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	1600	11435	83381 replaces 56801 other 5 grps same as prev with 56801	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	1716	11530	83381 22574 etc	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	1757	11635	83381 etc	AM/RDFT	(DSch)
HM01	16-9-2013	Mon	2058	11635	83381 etc	AM/RDFT	(DSch)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
HM01	17-9-2013	Tue	0702	13435	Sig vy wk	AM/RDFT	(DSch)
HM01	17-9-2013	Tue	1557	11435	Started stopped 1557 Starts again 83381 22574 etc	AM/RDFT	(DSch)
HM01	17-9-2013	Tue	1600	11130	Spanish 5FGs + RDFT messages	AM/RDFT	
HM01	17-9-2013	Tue	1700	11530	Starts/stops, then 83381 etc	AM/RDFT	(DSch)
HM01	17-9-2013	Tue	1757	11635	83381 etc	AM/RDFT	(DSch)
HM01	17-9-2013	Tue	2100	16180	sked in progress, weak, low modulation, no copy	AM/RDFT	(HS)
HM01	17-9-2013	Tue	2100	16180	83381 etc	AM/RDFT	(DSch)
HM01	17-9-2013	Tue	2159	17480	83381 etc	AM/RDFT	(DSch)
HM01	17-9-2013	Tue	2200	17480	sked started early	AM/RDFT	(HS)
HM01	17-9-2013	Tue	2202	17480	5FGs in SS then into new HM01 format with one group then digital mode.	AM/RDFT	(Rill/steve)
HM01	18-9-2013	Wed	0456	5855	83381 etc	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	0645	10345	DGI Havana i.p.	AM/RDFT	(LG2)
HM01	18-9-2013	Wed	1016	5855	83381 etc	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	1016	9155	83381 etc	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	1558	11435	93381 etc	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	1657	11530	Starts at 50182 181658. 83381 etc	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	1807	11635	Starts 22574. At 1810 UTC 83381	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	2057	11635	Starts 15441. At 2101 UTC 83381	AM/RDFT	(DSch)
HM01	18-9-2013	Wed	2100	11635	carrier but very low modulation	AM/RDFT	(HS)
HM01	18-9-2013	Wed	2118	11635	Spanish 5FGs in between RDFT data transmissions	AM/RDFT	(steve)
HM01	18-9-2013	Wed	2158	10715	82281 22574 15441 50182 08444 51825 2	AM/RDFT	(HS)
HM01	18-9-2013	Wed	2158	10715	83381 etc	AM/RDFT	(DSch)
HM01	19-9-2013		0747	13435	vy weak, uncopy	AM/RDFT	(DSch)
HM01	19-9-2013		0800	11635	vy weak, uncopy	AM/RDFT	(DSch)
HM01	19-9-2013		1658	11435	Tape hung up, rptng Dos Dos Dos etc 191553 83381 etc	AM/RDFT	(DSch)
HM01	19-9-2013		1700	11530	Spanish 5FGs in between RDFT data transmissions	AM/RDFT	(steve)
HM01	19-9-2013		1700	11530	83381 etc	AM/RDFT	(DSch)
HM01	19-9-2013		1700	17480	Spanish 5FGs in between RDFT data transmissions	AM/RDFT	(steve)
HM01	19-9-2013		1802	11635	82281 etc	AM/RDFT	(DSch)
HM01	19-9-2013		2157	16180	83381 etc	AM/RDFT	(DSch)
HM01	19-9-2013		2200	17480	83381 22574 15441 50182 08444 71835	AM/RDFT	(Dan)
HM01	19-9-2013		2200	17480	Spanish 5FGs in between RDFT data transmissions	AM/RDFT	(steve)
HM01	19-9-2013		2200	17480	83381 etc	AM/RDFT	(DSch)
HM01	19-9-2013		2200	17480	i.p.	AM/RDFT	(rill)
HM01	20-9-2013	Fri	0606	10345	i.p. copied 08444 51835 83381 22574 15441 50182	AM/RDFT	(KC2TTK)
HM01	20-9-2013	Fri	0606	10345	83381 22574 15441 50182 08444 51835 ends 0655 UTC	AM/RDFT	(KC2TTK)
HM01	20-9-2013	Fri	0656	9330	RDFT Tx for 15441 already IP. At 0717 Callup begins again, dead air, then MORSE "... ---", then callup picks up where it left off. Headers "83381 22574 15441 50182 08444 51835	AM/RDFT	(KC2TTK)
HM01	20-9-2013	Fri	0747	9330	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	0758	9065	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	1023	5855	i.p. Spanish 5FGs alternating with RDFT data //9155	AM/RDFT	(steve)
HM01	20-9-2013	Fri	1023	9155	i.p. Spanish 5FGs alternating with RDFT data //5855	AM/RDFT	(steve)
HM01	20-9-2013	Fri	1040	5855	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	1040	9155	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	1402	8097	Cut nbrs in CW	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	1602	11435	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	1700	11530	83381	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	1759	11635	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	2100	11635	83381 22574 15441 50182 08444 51835 QSA3,	AM/RDFT	(HS)
HM01	20-9-2013	Fri	2104	11635	83381 etc	AM/RDFT	(DSch)
HM01	20-9-2013	Fri	2200	10715	Spanish YL and RDTF data bursts, ip at 2215. Callups 56801 22574 15441 50182 08	AM/RDFT	(E2601)
HM01	20-9-2013	Fri	2200	10715	83381 22574 15441 50182 08444 51835 QSA3,	AM/RDFT	(HS)
HM01	20-9-2013	Fri	2201	10715	83381 etc	AM/RDFT	(DSch)

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HM01	21-9-2013	Sat	0805	11635	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	0816	11635	Cuban DGI Spanish single 5FGs + RDFT modem traffic	AM/RDFT	(PPA)
HM01	21-9-2013	Sat	1008	11635	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	1008	12180	carrier weak, no msgs	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	1555	11435	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	1657	11530	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	1801	11635	Spanish 5FGs alternating with RDFT data	AM/RDFT	(steve)
HM01	21-9-2013	Sat	1815	11635	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	2059	16180	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	2155	17480	Spanish 5FGs alternating with RDFT data	AM/RDFT	(steve/rill)
HM01	21-9-2013	Sat	2157	17480	83381 etc	AM/RDFT	(DSch)
HM01	21-9-2013	Sat	2258	17540	Spanish 5FGs alternating with RDFT data	AM/RDFT	(steve/rill)
HM01	21-9-2013	Sat	2258	17540	83381 etc	AM/RDFT	(DSch)
HM01	22-9-2013	Sun	0526	5855	83381 etc	AM/RDFT	(DSch)
HM01	22-9-2013	Sun	1559	11435	Grp change 56801 22574 15441 50182 08444 51835	AM/RDFT	(DSch)
HM01	22-9-2013	Sun	1657	11530	Starts and stops. 56801 etc	AM/RDFT	(DSch)
HM01	22-9-2013	Sun	1811	11635	56801 etc	AM/RDFT	(DSch)
HM01	22-9-2013	Sun	2158	10715	Starts at 51835. At 2159 UTC 57801 etc	AM/RDFT	(DSch)
HM01	22-9-2013	Sun	2344	11530	Carrier still on but no transmission	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	0503	5855	56801 22574 15441 50182 08444 51835 followed by RDFT data	AM/RDFT	(KC2TTK)
HM01	23-9-2013	Mon	0559	10345	56801 22574 15441 50182 08444 51835 followed by RDFT data	AM/RDFT	(KC2TTK)
HM01	23-9-2013	Mon	0700	9330	56801 22574 15441 50182 08444 51835 followed by RDFT data	AM/RDFT	(KC2TTK)
HM01	23-9-2013	Mon	1034	5855	starts 15441 At 1035 UTC 56801 etc	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	1034	9155	starts 15441 At 1035 UTC 56801 etc	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	1604	11435	56801 etc	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	1658	11530	56801 etc	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	1803	11635	vy wk 56801 etc. Weak sig 56801	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	1836	11635	Spanish 5FGs alternating with RDFT data	AM/RDFT	(steve)
HM01	23-9-2013	Mon	2058	11635	Spanish 5FGs + RDFT messages	AM/RDFT	(steve)
HM01	23-9-2013	Mon	2106	11635	56801 etc	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	2224	10715	56801 etc	AM/RDFT	(DSch)
HM01	23-9-2013	Mon	2300	11530	Audio hum and noise increased slightly at 2300, no audible content heard, dropped carrier at 2356.	AM/RDFT	(HS)
HM01	24-9-2013	Tue	0836	11635	Voice announcements messed up. Grps being rptd twice and then followed by RDFT	AM/RDFT	(DSch)
HM01	24-9-2013	Tue	1050	12180	56801 etc	AM/RDFT	(DSch)
HM01	24-9-2013	Tue	1407	8097	Cut nbrs in CW	AM/RDFT	(DSch)
HM01	24-9-2013	Tue	1657	11530	83381 etc	AM/RDFT	(DSch)
HM01	24-9-2013	Tue	1808	11635	83381	AM/RDFT	(DSch)
HM01	24-9-2013	Tue	2152	16180	83381 etc	AM/RDFT	(DSch)
HM01	24-9-2013	Tue	2201	17480	83381 etc	AM/RDFT	(DSch)
HM01	25-9-2013	Wed	0505	5855	i.p. 83381 22574 15441 50182 08444 51835 followed by RDFT data	AM/RDFT	(KC2TTK)
HM01	25-9-2013	Wed	0558	10345	i.p. 50182. At 0610 UTC 83381 22574 15441 50182 08444 51835. At 0646 UTC 83381 22574 15441 50182 08444 51835	AM/RDFT	(KC2TTK)
HM01	25-9-2013	Wed	0703	9330	15441 transmitter blink - dead air 50182	AM/RDFT	(KC2TTK)
HM01	25-9-2013	Wed	2200	10715	56801 22574 15441 50182 08444 51835 followed by RDFT data	AM/RDFT	(Dan)
HM01	25-9-2013	Wed	2201	10715	56801 etc	AM/RDFT	(DSch)
HM01	25-9-2013	Wed	2201	11435	Back to 56801 as 1st grp. Remaining grps same as before.	AM/RDFT	(DSch)
HM01	25-9-2013	Wed	2201	11530	56801 etc	AM/RDFT	(DSch)
HM01	25-9-2013	Wed	2201	11635	56801 etc	AM/RDFT	(DSch)
HM01	26-9-2013		0952	12120	hrd fair RDFT but voice uncopy	AM/RDFT	(DSch)
HM01	26-9-2013		1001	12180	56801 etc	AM/RDFT	(DSch)

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HM01	26-9-2013		1606	11435	56801 etc	AM/RDFT	(DSch)
HM01	26-9-2013		1803	11635	56801 etc	AM/RDFT	(DSch)
HM01	26-9-2013		2105	16180	83381 22574 15441 50182 08444 51835	AM/RDFT	(DSch)
HM01	26-9-2013		2152	16180	i.p. 56801 22574, carrier was cut at 2156	AM/RDFT	(HS)
HM01	26-9-2013		2157	17480	i.p. 56801 22574 15441 50182 08444 51835	AM/RDFT	(HS)
HM01	27-9-2013	Fri	0500	5855	Carrier on, dead air. At 0502 56801 22574 15441 50182 08444 51835 followed by RDFT. Ends 0600	AM/RDFT	(KC2TTK)
HM01	27-9-2013	Fri	0602	10345	Carrier up, callup i.p. 56801 22574 15441 50182 08444 51835	AM/RDFT	(KC2TTK)
HM01	27-9-2013	Fri	0700	13435	vy weak	AM/RDFT	(KC2TTK)
HM01	27-9-2013	Fri	0723	9330	i.p.	AM/RDFT	(KC2TTK)
HM01	27-9-2013	Fri	0758	11635	83381 22574 15441 50182 08444 51835 RDFT 83381 83381 83381 RDFT 83381 22574 15441 50182 08444 51835 RDFT 83381 83381 83381 ...22754..." under QRM	AM/RDFT	(KC2TTK)
HM01	27-9-2013	Fri	0802	9065	56801 22574 15441 50182 08444 51835	AM/RDFT	(KC2TTK)
HM01	27-9-2013	Fri	1559	11435	83381 etc	AM/RDFT	(DSch)
HM01	27-9-2013	Fri	1658	11530	Starts 50182 08444 51835 83381 etc	AM/RDFT	(DSch)
HM01	27-9-2013	Fri	1758	11635	83381 etc	AM/RDFT	(DSch)
HM01	27-9-2013	Fri	2059	11635	83381 etc	AM/RDFT	(DSch)
HM01	27-9-2013	Fri	2158	10715	83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	0805	11635	83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	1044	11635	Wk sig 83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	1044	12180	Also wk sig 83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	1558	11435	83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	1702	11530	83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	1759	11635	83381 etc	AM/RDFT	(DSch)
HM01	28-9-2013	Sat	2222	17480	83381 etc	AM/RDFT	(DSch)
HM01	29-9-2013	Sun	0128	5855	i.p.	AM/RDFT	(KC2TTK)
HM01	29-9-2013	Sun	0128	5855	i.p. clg 83381 22574 15441 50182 08444 51835	AM/RDFT	(KC2TTK)
HM01	29-9-2013	Sun	0726	9330	i.p.	AM/RDFT	(KC2TTK)
HM01	29-9-2013	Sun	1609	11435	He started late today. 83381 etc	AM/RDFT	(DSch)
HM01	29-9-2013	Sun	1657	11530	83381 etc	AM/RDFT	(DSch)
HM01	29-9-2013	Sun	1757	11635	83381 etc	AM/RDFT	(DSch)
HM01	29-9-2013	Sun	2100	11635	5FGs in Spanish alternating with RDFT data	AM/RDFT	(steve)
HM01	29-9-2013	Sun	2126	11635	83381 etc	AM/RDFT	(DSch)
HM01	29-9-2013	Sun	2200	10715	83381 etc	AM/RDFT	(DSch)
HM01	30-9-2013	Mon	1604	11435	83381 etc	AM/RDFT	(DSch)
HM01	30-9-2013	Mon	1810	11635	HM01 and M08a both going at same time 56801 replaced 83381 other grps same as before.	AM/RDFT	(DSch)
HM01	30-9-2013	Mon	2058	11635	56801 etc	AM/RDFT	(DSch)
HM01	30-9-2013	Mon	2200	10715	They running HM01 and M08a at same time again	AM/RDFT	(DSch)
M01	3-9-2013	Tue	1800	5476	463 523 30 10715 81327 74906 91176 97745 ... 66383 32921 52609 94443 67730 = = 523 30 000 //5475	CW	(MPJ)
M01	10-9-2013	Tue	1800	10950	5F groups ending 673 673 30 30 000	CW	(PPA)
M01	12-9-2013	Thu	1800	5474	463 138 30 = 89538	USB	(HFD)
M01	12-9-2013	Thu	2000	5020	463	USB	(HFD)
M01	14-9-2013	Sat	1500	6261	463 handgiven	USB	(HFD)
M01	23-9-2013	Mon	1527	4204	18131 41359 45946 43044 05123 53839 03052 220.4 = 39114 000	CW	(JPL-FNL)
M01	30-9-2013	Mon	1642	6978	i.p. 738 738 738 732 88 111 04001 738 738 738 333 12 (see N&O 192)	CW	(JPL-RUS)
M01a	25-9-2013	Wed	1715	4620	243 243 243 84372 84372. 243 243 243 83612 83612	CW	(Gwr)
M01a	26-9-2013		1800	3826	842 842 842 98400 98400	CW	(Gwr)
M01a	26-9-2013		1806	3826	842 842 842 98828 98828	CW	(Gwr)
M01a	30-9-2013	Mon	1650	7811	472 472 472 21588 21588 then into 333 333 333 21947 21947 and later 333 333 333 21792 21792	CW	(PPA)
M01a	30-9-2013	Mon	1700	7811	472 472 472 20395 20395	CW	(PPA)



enigma	date	day	UTC	frequency	remarks	mode	Ctrb
M01b	2-9-2013	Mon	1917	3646.2	771 305 30 76387 74648 46876 4...9 (faded).	CW	(MPJ)
M01b	6-9-2013	Fri	1525	5811.15	Prob moved here from QRM on 5810 kHz. Too weak to copy.	CW	(MPJ)
M01b	6-9-2013	Fri	1902	3626.15	153 Too weak to copy traffic.	CW	(MPJ)
M01b	9-9-2013	Mon	1810	3535	420 900 30 = 64350 //4590	USB	(HFD)
M01b	9-9-2013	Mon	1810	4590	420-900/30 = 64350 //3535	USB	(HFD)
M01b	11-9-2013	Wed	1505	5940	159 194 30 = 42275 51828 87454 ... 47700 77233 71087 = 194 30 000	CW	(AB)
M01b	12-9-2013	Thu	1832	3510	201 900 30 = 64350 3510 //4605	USB	(HFD)
M01b	12-9-2013	Thu	1832	4605	201-900/30 = 64350 //3510	USB	(HFD)
M01b	12-9-2013	Thu	1942	3715	477 900 30 = 64350 //4570	USB	(HFD)
M01b	12-9-2013	Thu	1942	4570	477 900 30 = 64350 //3715	USB	(HFD)
M01b	13-9-2013	Fri	1515	5810	158 194 30 = 41275	USB	(HFD)
M01b	13-9-2013	Fri	1902	4941	153 900 30 = 64350 not 3625//4440	USB	(HFD)
M01b	13-9-2013	Fri	2010	3520	582 900 30 = 64350 //4585	USB	(HFD)
M01b	13-9-2013	Fri	2010	4585	582 900 30 = 64350 //3520	USB	(HFD)
M01b	23-9-2013	Mon	1915	3644	771 900 30 = 64350 //4454	USB	(HFD)
M01b	23-9-2013	Mon	1915	4454	771 900 30 = 64350 //3644	USB	(HFD)
M01b	30-9-2013	Mon	1810	3536.13	420 900 30 = = 64350 58.17 69661 11414 04957 ... 92497 74522 22773 29368 92561 = = 900 30 000. //4591.14//4592.26	CW	(MPJ)
M01b	30-9-2013	Mon	1810	4591.14	420 900 30 = = 64350 58.17 69661 11414 04957 ... 92497 74522 22773 29368 92561 = = 900 30 000. //3536.13//4592.26	CW	(MPJ)
M03	10-9-2013	Tue	1115	9150	272/00	USB	(HFD)
M03	10-9-2013	Tue	1535	6977	798/00	USB	(HFD)
M03	12-9-2013	Thu	1320	9150	437/00	USB	(HFD)
M03	22-9-2013	Sun	1300	9150	434/36 434/36 = = (5F message) = 000	CW	(PPA)
M03	29-9-2013	Sun	1320	15915	437/00	CW	(MPJ)
M08a	3-9-2013	Tue	2005	7554	cut nbr grps in CW and then the tape messes up and is uncopy.	CW	(DSch)
M08a	3-9-2013	Tue	2257	8135	IIGDN GANWA ADRGN	CW	(DSch)
M08a	4-9-2013	Wed	1356	8097	xmtr tuned at 1356. IWTTA WAGUA RUDRA cut nbrs in CW at 1357	CW	(DSch)
M08a	4-9-2013	Wed	2259	8009	vy wk cut nbrs in CW	CW	(DSch)
M08a	5-9-2013		1416	8097	tuned xmtr at 1343. No tfc	CW M08a	(DSch)
M08a	7-9-2013	Sat	1755	11635	Xmtr tuned 1755. Carrier off & sounds like vy wk CW but uncopy	CW	(DSch)
M08a	21-9-2013	Sat	1422	8097	Cut nbrs in CW	CW	(DSch)
M08a	23-9-2013	Mon	2306	8009	Cut nbrs in CW	CW	(DSch)
M08a	25-9-2013	Wed	1405	8095.7	Cut nbrs in CW. Off frequency	CW	(DSch)
M08a	30-9-2013	Mon	1810	11635	HM01 and M08a both going at same time 56801 replaced 83381 other grps same as before.	CW	(DSch)
M08a	30-9-2013	Mon	2200	10715	They running HM01 and M08a at same time again	CW	(DSch)
M12	2-9-2013	Mon	0430	5792	769 769 769 000	CW	(FN)
M12	2-9-2013	Mon	0450	6992	769 769 769 000	CW	(FN)
M12	2-9-2013	Mon	1300	14372	344 1 8622 173 26344	CW	(FN)
M12	2-9-2013	Mon	1300	14372	344 26344 55934 07714 95902 87757 ... 41784 42890 23087 37248 52512 000 000	CW	(MPJ)
M12	2-9-2013	Mon	1320	13472	344 1 8622 173 26344	CW	(FN)
M12	2-9-2013	Mon	1340	11472	344 1 8622 173 26344	CW	(FN)
M12	2-9-2013	Mon	1600	11435	938 1 5216 117 72852	CW	(FN)
M12	2-9-2013	Mon	1620	10598	938 1 5216 117 72852	CW	(FN)
M12	2-9-2013	Mon	1640	9327	938 1 5216 117 72852	CW	(FN)
M12	2-9-2013	Mon	1700	9176	257 1 1827 79 84789	CW	(FN)
M12	2-9-2013	Mon	1720	7931	257 1 1827 79 84789	CW	(FN)
M12	2-9-2013	Mon	1740	6904	257 1 1827 79 84789	CW	(FN)
M12	2-9-2013	Mon	1800	9176	257 1 4518 61 53504	CW	(FN)

enigma	date	day	UTC	frequency	remarks	mode	Ctrlb
M12	2-9-2013	Mon	1820	7931	257 4518 61 53504 32513 40284 52797 74946 ... 26902 11361 42669 26120 47992 000 000.	CW	(MPJ)
M12	2-9-2013	Mon	1820	7931	257 1 4518 61 53504	CW	(FN)
M12	2-9-2013	Mon	1840	6904	257 1 4518 61 53504	CW	(FN)
M12	2-9-2013	Mon	1900	9176	257 1 5178 118 15333	CW	(FN)
M12	2-9-2013	Mon	1920	7931	257 1 5178 118 15333	CW	(FN)
M12	2-9-2013	Mon	1940	6904	257 1 5178 118 15333	CW	(FN)
M12	3-9-2013	Tue	1820	7931	257 257 257 1 => 5F msg	CW	(PPA)
M12	3-9-2013	Tue	1830	10343	124 1	USB	(HFD)
M12	3-9-2013	Tue	1830	10343	124 1 46198 88155 83554 10564 86386 ... 78850 29118 41365 38731 22386 000 000	CW	(MPJ)
M12	3-9-2013	Tue	1830	10343	124 1 1493 68 46198	CW	(FN)
M12	3-9-2013	Tue	1850	9264	124 1	USB	(HFD)
M12	3-9-2013	Tue	1850	9264	124 1 1493 68 46198	CW	(FN)
M12	3-9-2013	Tue	1910	8116	124 1 1493 68 46198	CW	(FN)
M12	3-9-2013	Tue	1910	8116	124 1	USB	(HFD)
M12	4-9-2013	Wed	1500	13524	344 1 8622 173 26344	CW	(FN)
M12	4-9-2013	Wed	1520	11524	344 1 8622 173 26344	CW	(FN)
M12	4-9-2013	Wed	1540	10334	344 1 8622 173 26344	CW	(FN)
M12	4-9-2013	Wed	1700	8047	463 1 3467 99 26308	CW	(FN)
M12	4-9-2013	Wed	1720	6802	463 1 3467 99 26308	CW	(FN)
M12	4-9-2013	Wed	1740	5788	463 1 3467 99 26308	CW	(FN)
M12	4-9-2013	Wed	1830	11435	938 938 938 1 => 5F msg	CW	(PPA)
M12	4-9-2013	Wed	1830	11435	938 1 7259 64 98559	CW	(FN)
M12	4-9-2013	Wed	1850	10598	938 1 7259 64 98559	CW	(FN)
M12	4-9-2013	Wed	1910	9327	938 1 7259 64 98559	CW	(FN)
M12	4-9-2013	Wed	2100	6793	785 785 785 000	CW	(FN)
M12	4-9-2013	Wed	2100	6793	785 0	USB	(HFD)
M12	4-9-2013	Wed	2110	11469	441 441 441 000	CW	(FN)
M12	4-9-2013	Wed	2110	11469	441 0	USB	(HFD)
M12	4-9-2013	Wed	2120	5893	785 0	USB	(HFD)
M12	4-9-2013	Wed	2120	5893	785 785 785 000	CW	(FN)
M12	4-9-2013	Wed	2130	10469	441 0	USB	(HFD)
M12	4-9-2013	Wed	2130	10469	441 441 441 000	CW	(FN)
M12	5-9-2013	Thu	0630	6784	761 0	USB	(HFD)
M12	5-9-2013	Thu	0630	6784	761 761 761 000	CW	(FN)
M12	5-9-2013	Thu	0650	7684	761 0	USB	(HFD)
M12	5-9-2013	Thu	0650	7684	761 761 761 000	CW	(FN)
M12	5-9-2013	Thu	1310	13873	834 0	USB	(HFD)
M12	5-9-2013	Thu	1310	13873	834 834 834 000	CW	(FN)
M12	5-9-2013	Thu	1330	13373	834 834 834 000	CW	(FN)
M12	5-9-2013	Thu	1330	13373	834 0	USB	(HFD)
M12	5-9-2013	Thu	1600	13386	725 1 6198 116 37042	CW	(FN)
M12	5-9-2013	Thu	1620	12189	725 1 6198 116 37042	CW	(FN)
M12	5-9-2013	Thu	1640	11491	725 1 6198 116 37042	CW	(FN)
M12	5-9-2013	Thu	1700	9176	257 1 7261 98 22669	CW	(FN)
M12	5-9-2013	Thu	1700	10343	124 1	USB	(HFD)
M12	5-9-2013	Thu	1700	10343	124 1 5879 78 49590	CW	(FN)
M12	5-9-2013	Thu	1720	7931	257 1 7261 98 22669	CW	(FN)
M12	5-9-2013	Thu	1720	9264	124 1 5879 78 49590	CW	(FN)
M12	5-9-2013	Thu	1720	9264	124 1	USB	(HFD)
M12	5-9-2013	Thu	1740	6904	257 1 7261 98 22669	CW	(FN)
M12	5-9-2013	Thu	1740	8116	124 1	USB	(HFD)
M12	5-9-2013	Thu	1740	8116	124 1 5879 78 49590	CW	(FN)
M12	5-9-2013	Thu	1800	10343	124 1 2787 114 22479	CW	(FN)
M12	5-9-2013	Thu	1800	10343	124 1	USB	(HFD)

enigma	date	day	UTC	frequency	remarks	mode	Ctrlb
M12	5-9-2013	Thu	1820	9264	124 1 2787 114 22479	CW	(FN)
M12	5-9-2013	Thu	1830	9264	124 1	USB	(HFD)
M12	5-9-2013	Thu	1840	8116	124 1 2787 114 22479	CW	(FN)
M12	5-9-2013	Thu	1840	8116	124 1	USB	(HFD)
M12	5-9-2013	Thu	1900	9176	257 1 1474 62 31686	CW	(FN)
M12	5-9-2013	Thu	1920	7931	257 1 1474 62 31686	CW	(FN)
M12	5-9-2013	Thu	1940	6904	257 1 1474 62 31686	CW	(FN)
M12	9-9-2013	Mon	1300	14372	344 344 344 000	CW	(FN)
M12	9-9-2013	Mon	1320	13472	344 344 344 000	CW	(FN)
M12	9-9-2013	Mon	1600	11435	938 1 1554 100 83460	CW	(FN)
M12	9-9-2013	Mon	1600	11435	938 1	USB	(HFD)
M12	9-9-2013	Mon	1620	10598	938 1	USB	(HFD)
M12	9-9-2013	Mon	1620	10598	938 1 1554 100 83460	CW	(FN)
M12	9-9-2013	Mon	1640	9327	938 1	USB	(HFD)
M12	9-9-2013	Mon	1640	9327	938 1 1554 100 83460	CW	(FN)
M12	9-9-2013	Mon	1700	6904	257 1 8009 80 32323	CW	(FN)
M12	9-9-2013	Mon	1700	7931	257 1 8009 80 32323	CW	(FN)
M12	9-9-2013	Mon	1700	9176	257 1 8009 80 32323	CW	(FN)
M12	9-9-2013	Mon	1800	9176	257 1 7316 61 65823	CW	(FN)
M12	9-9-2013	Mon	1820	7931	257 1 7316 61 65823	CW	(FN)
M12	9-9-2013	Mon	1840	6904	257 1 7316 61 65823	CW	(FN)
M12	9-9-2013	Mon	1900	9176	257 1 2468 120 61705	CW	(FN)
M12	9-9-2013	Mon	1920	7931	257 1 2468 120 61705	CW	(FN)
M12	9-9-2013	Mon	1940	6904	257 1 2468 120 61705	CW	(FN)
M12	10-9-2013	Tue	1830	10343	124 1 1200 51 99118	CW	(FN)
M12	10-9-2013	Tue	1850	9264	124 1 1200 51 99118	CW	(FN)
M12	10-9-2013	Tue	1910	8116	124 1 1200 51 99118	CW	(FN)
M12	11-9-2013	Wed	1500	13524	344 344 344 000	CW	(FN)
M12	11-9-2013	Wed	1520	11524	344 344 344 000	CW	(FN)
M12	11-9-2013	Wed	1700	8047	463	CW	(JPL-RUS)
M12	11-9-2013	Wed	1700	8047	463 1 1091 90 90202	CW	(FN)
M12	11-9-2013	Wed	1720	6802	463 1 1091 90 90202	CW	(FN)
M12	11-9-2013	Wed	1740	5788	463 1 1091 90 90202	CW	(FN)
M12	11-9-2013	Wed	1830	11435	938 1 3295 64 85480	CW	(FN)
M12	11-9-2013	Wed	1850	10598	938 1 3295 64 85480	CW	(FN)
M12	11-9-2013	Wed	1910	9327	938 1 3295 64 85480	CW	(FN)
M12	11-9-2013	Wed	2110	11469	441 441 441 1 91452 45147 08591 08455 23885 etc	CW	(LG2)
M12	14-9-2013	Sat	1310	13873	834 0	USB	(HFD)
M12	14-9-2013	Sat	1330	13373	834 0	USB	(HFD)
M12	16-9-2013	Mon	0430	5792	796 0	USB	(HFD)
M12	16-9-2013	Mon	0450	6992	796 0	USB	(HFD)
M12	16-9-2013	Mon	1300	14372	344 1	USB	(HFD)
M12	16-9-2013	Mon	1300	14372	344 1 9417 217 61205	CW	(FN)
M12	16-9-2013	Mon	1320	13472	344 1	USB	(HFD)
M12	16-9-2013	Mon	1320	13472	344 1 9417 217 61205	CW	(FN)
M12	16-9-2013	Mon	1340	11472	344 1	USB	(HFD)
M12	16-9-2013	Mon	1340	11472	344 1 9417 217 61205	CW	(FN)
M12	16-9-2013	Mon	1600	11435	938 1 3022 118 37186	CW	(FN)
M12	16-9-2013	Mon	1620	10598	938 1 3022 118 37186	CW	(FN)
M12	16-9-2013	Mon	1640	9327	938 1 3022 118 37186	CW	(FN)
M12	16-9-2013	Mon	1700	9176	257 1 5344 79 11158	CW	(FN)
M12	16-9-2013	Mon	1720	7931	257 1 5344 79 11158	CW	(FN)
M12	16-9-2013	Mon	1740	6904	257 1 5344 79 11158	CW	(FN)
M12	16-9-2013	Mon	1800	9176	257 1 7420 68 26456	CW	(FN)
M12	16-9-2013	Mon	1820	7931	257 1 7420 68 26456	CW	(FN)
M12	16-9-2013	Mon	1840	6904	257 1 7420 68 26456	CW	(FN)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
M12	17-9-2013	Tue	1830	10343	124 1 1295 67 86248	CW	(FN)
M12	17-9-2013	Tue	1850	9264	124 1 1295 67 86248	CW	(FN)
M12	17-9-2013	Tue	1910	8116	124 1 1295 67 86248	CW	(FN)
M12	18-9-2013	Wed	1500	13524	344 1 9417 217 61205	CW	(FN)
M12	18-9-2013	Wed	1520	11524	344 1 9417 217 61205	CW	(FN)
M12	18-9-2013	Wed	1540	10334	344 1 9417 217 61205	CW	(FN)
M12	18-9-2013	Wed	1700	8047	463 1 3926 94 31277	CW	(FN)
M12	18-9-2013	Wed	1720	6802	463 1 3926 94 31277	CW	(FN)
M12	18-9-2013	Wed	1740	5788	463 1 3926 94 31277	CW	(FN)
M12	18-9-2013	Wed	1830	11435	938 1	USB	(HFD)
M12	18-9-2013	Wed	1830	11435	938 1 6245 65 06201	CW	(FN)
M12	18-9-2013	Wed	1850	10598	938 1 6245 65 06201	CW	(FN)
M12	18-9-2013	Wed	1850	10598	938 1	USB	(HFD)
M12	18-9-2013	Wed	1910	9327	938 1	USB	(HFD)
M12	18-9-2013	Wed	1910	9327	938 1 6245 65 06201	CW	(FN)
M12	18-9-2013	Wed	2153	9169	5FGs ends with OO0	CW	(LG2)
M12	19-9-2013	Thu	0630	6784	761 761 761 000	CW	(FN)
M12	19-9-2013	Thu	0650	7684	761 761 761 000	CW	(FN)
M12	19-9-2013	Thu	1600	13386	725 1 4193 111 19469	CW	(FN)
M12	19-9-2013	Thu	1620	12189	725 1 4193 111 19469	CW	(FN)
M12	19-9-2013	Thu	1640	11491	725 1 4193 111 19469	CW	(FN)
M12	19-9-2013	Thu	1700	9176	257 1 3453 96 58046	CW	(FN)
M12	19-9-2013	Thu	1700	10343	124 1 3211 74 88538	CW	(FN)
M12	19-9-2013	Thu	1720	7931	257 1 3453 96 58046	CW	(FN)
M12	19-9-2013	Thu	1720	9264	124 1 3211 74 88538	CW	(FN)
M12	19-9-2013	Thu	1740	6904	257 1 3453 96 58046	CW	(FN)
M12	19-9-2013	Thu	1740	8116	124 1 3211 74 88538	CW	(FN)
M12	19-9-2013	Thu	1800	10343	124 1 1121 114 16426	CW	(FN)
M12	19-9-2013	Thu	1820	9264	124 1 1121 114 16426	CW	(FN)
M12	19-9-2013	Thu	1840	8116	124 1 1121 114 16426	CW	(FN)
M12	19-9-2013	Thu	1900	9176	257 1 6975 65 74644	CW	(FN)
M12	19-9-2013	Thu	1920	7931	257 1 6975 65 74644	CW	(FN)
M12	19-9-2013	Thu	1940	6904	257 1 6975 65 74644	CW	(FN)
M12	24-9-2013	Tue	1830	10343	124 1 8262 68 92640	CW	(FN)
M12	24-9-2013	Tue	1850	9264	124 1 8262 68 92640	CW	(FN)
M12	24-9-2013	Tue	1910	8116	124 1 8262 68 92640	CW	(FN)
M12	25-9-2013	Wed	1500	13524	344 1 834 157 76989	CW	(FN)
M12	25-9-2013	Wed	1520	11524	344 1 834 157 76989	CW	(FN)
M12	25-9-2013	Wed	1540	10334	344 1 834 157 76989	CW	(FN)
M12	25-9-2013	Wed	1700	8047	463 1 7475 94 67780	CW	(FN)
M12	25-9-2013	Wed	1720	6802	463 1 7475 94 67780	CW	(FN)
M12	25-9-2013	Wed	1740	5788	463 1 7475 94 67780	CW	(FN)
M12	25-9-2013	Wed	1830	11435	938 1 7511 69 00136	CW	(FN)
M12	25-9-2013	Wed	1850	10598	938 1 7511 69 00136	CW	(FN)
M12	25-9-2013	Wed	1910	9327	938 1 7511 69 00136	CW	(FN)
M12	25-9-2013	Wed	2100	6793	785 785 785 000	CW	(FN)
M12	25-9-2013	Wed	2110	11469	441 1 8136 119 12019	CW	(FN)
M12	25-9-2013	Wed	2120	5893	785 785 785 000	CW	(FN)
M12	25-9-2013	Wed	2130	10469	441 1 8136 119 12019	CW	(FN)
M12	25-9-2013	Wed	2150	9169	441 1 8136 119 12019	CW	(FN)
M12	26-9-2013	Thu	0630	6784	761 761 761 000	CW	(FN)
M12	26-9-2013	Thu	0650	7684	761 761 761 000	CW	(FN)
M12	26-9-2013	Thu	1310	13873	834 834 834 000	CW	(FN)
M12	26-9-2013	Thu	1330	13373	834 834 834 000	CW	(FN)
M12	26-9-2013	Thu	1600	13386	725 1 7245 115 61500	CW	(FN)
M12	26-9-2013	Thu	1620	12189	725 1 7245 115 61500	CW	(FN)

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M12	26-9-2013	Thu	1640	11491	725 1 7245 115 61500	CW	(FN)
M12	26-9-2013	Thu	1700	9176	257 1 7819 100 06137	CW	(FN)
M12	26-9-2013	Thu	1700	10343	124 1 7521 72 09248	CW	(FN)
M12	26-9-2013	Thu	1720	7931	257 1 7819 100 06137	CW	(FN)
M12	26-9-2013	Thu	1720	9264	124 1 7521 72 09248	CW	(FN)
M12	26-9-2013	Thu	1740	6904	257 1 7819 100 06137	CW	(FN)
M12	26-9-2013	Thu	1740	8116	124 1 7521 72 09248	CW	(FN)
M12	26-9-2013	Thu	1800	10343	124 1 5786 120 29853	CW	(FN)
M12	26-9-2013	Thu	1820	9264	124 1 5786 120 29853	CW	(FN)
M12	26-9-2013	Thu	1840	8116	124 1 5786 120 29853	CW	(FN)
M12	26-9-2013	Thu	1900	9176	257 1 5880 69 62329	CW	(FN)
M12	26-9-2013	Thu	1920	7931	257 1 5880 69 62329	CW	(FN)
M12	26-9-2013	Thu	1940	6904	257 1 5880 69 62329	CW	(FN)
M12	30-9-2013	Mon	1300	14372	344 1 143 075 71203 61077 46665 67704 72383 ... 63693 58144 63328 81097 85227 000 000	CW	(MPJ)
M14	10-9-2013	Tue	0700	8120	362 0	USB	(HFD)
M14	10-9-2013	Tue	0800	7395	362 0	USB	(HFD)
M14	10-9-2013	Tue	1820	5948	346 721 15 = 27182	USB	(HFD)
M14	11-9-2013	Wed	1705	10424	i.p. 02471 76302 51340 70286 (Contæd) = = 534 534 98 98 00000	CW	(JPL-RUS)
M14	25-9-2013	Wed	1920	5464	537 814 15 = 77281	USB	(HFD)
M21	9-9-2013	Mon	2049	4904	=990049??8?????	CW	(JPL)
M21	9-9-2013	Mon	2113	5202	=990113??0?????	CW	(JPL-S)
M21	14-9-2013	Sat	2313	4904	Russian Air Defense =990314??8????? =990315??8?????	CW	(WP3)
M21	15-9-2013	Sun	2041	4904	=990441??8?????	CW	(AB)
M21	16-9-2013	Mon	0348	5806	Russian air defence =99T748??T?????	CW	(PPA)
M21	18-9-2013	Wed	1838	5201	PVO =992238??0?????	CW	(PPA)
M21	19-9-2013		1725	4627	PVO =992125??8?????	CW	(Gwr)
M21	26-9-2013		1513	6911.5	=991913??8????? =991914??8?????	CW	(WP3)
M21	27-9-2013	Fri	0329	4628	=990729??8?????	CW	(PPA)
M21	27-9-2013	Fri	2158	4627	=990157??8?????	CW	(Faux)
M21	28-9-2013	Sat	2019	4904	=990019??8?????	CW	(JPL-FNL)
M21	28-9-2013	Sat	2100	6911.5	Russian Air Defence =990100??8?????	CW	(MPJ)
M21	29-9-2013	Sun	1539	6912	=991939??8?????	CW	(JPL-FNL)
M21	29-9-2013	Sun	1730	6911.5	Russian Air Defence =99213T??8?????	CW	(PPA)
M21	29-9-2013	Sun	2033	5202	=990034??0?????	CW	(JPL-FNL)
M22	14-9-2013	Sat	2354	4331	4XZ IN Haifa ISR VVV DE 4XZ 4XZ = DE 4XZ 4XZ = =	CW	(WP3)
M22	26-9-2013		1518	6607	4XZ IN Haifa mddyh ijmaa = nr087 za v ef5s 336 .. = vvv 4xz 4xz =	CW	(WP3)
M23	13-9-2013	Fri	1710	16136	333 repeated	CW	(MCO)
M23	15-9-2013	Sun	1707	5921	i.p. 333 (rptd) ends at 1716 with a long dash //16136 kHz	CW	(AB)
M23	15-9-2013	Sun	1707	16136	i.p. 333 (rptd) ends at 1716 with a long dash //5921 kHz	CW	(AB)
M23	15-9-2013	Sun	1810	11442	555 rptd ends 1821 UTC	CW	(NR)
M23	19-9-2013		0800	5921	333 repeated	CW	(AB)
M23?	27-9-2013	Fri	2110	10310	Repeating "3"	CW	(4D)
M32	1-8-2013		0801	14108	QXHA wkg P2D4 QBE QYT9 k. NFY1 wkg MGKQ ZPD ZQG ZSO QYT6 k	CW	(IARUMS)
M32	2-8-2013		0946	14108	QXHA wkg NFJI ZNU ZNH ZNR QRR3 k	CW	(IARUMS)
M32	7-8-2013		0633	14108	c/s NFY1	CW	(IARUMS)
M32	7-8-2013		0650	14108	P2D4 de QXHA ZKU ZQD ZKC QRR3 K	CW	(IARUMS)
M32	10-8-2013		0704	14108	P2D4 DE QXHA QTC 083 21 10 1052 083 =	CW	(IARUMS)
M32	13-8-2013		0824	14108	c/s 1QID	CW	(IARUMS)
M32	14-8-2013		0910	14108	AZHN wkg 2L4W, T2GW	CW	(IARUMS)
M32	14-8-2013		0920	14108	AZHN clg PCPM, 5BB2, W7CC, SE4B, SCBZ	CW	(IARUMS)
M32	16-8-2013		1104	14108	AZHN msg to J6CZ	CW	(IARUMS)
M32	19-8-2013		0733	14108	W7CC DE SEXO ZNM ZYL ZKP QYT6 K	CW	(IARUMS)

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M32	22-8-2013		0513	14108	CLYX DE 1VJ9 QTC 048 23 22 0846 =	CW	(IARUMS)
M32	22-8-2013		0712	14108	DHT4 DE DHAF QTC 040 16 22 1048 040	CW	(IARUMS)
M32	26-8-2013		0737	14108	1VJ9 clg VHNG, TSKJ, HKG8, DHT4, WQ2G	CW	(IARUMS)
M32	1-9-2013	Sun	1334	5096	XXX XXX MDVB MDVB 94065 KALÆUTA 9279 4162	CW	(JPL-FNL)
M32	1-9-2013	Sun	1335	5096	XXX XXX MDVB MDVB 43449 GALXÆAN 5437 7452 K	CW	(JPL-FNL)
M32	1-9-2013	Sun	1354	8368	ISHX (ContÆd)	CW	(JPL-FNL)
M32	1-9-2013	Sun	1403	5096	VVV XXX XXX MDVB MDVB 24739 WALXKE RIT 8221 5630	CW	(JPL-FNL)
M32	1-9-2013	Sun	1415	3807	i.p. RPT 28 K. HWDL R 379 K. N2LE DE HWDL K. QSA3 QSA? K. R K	CW	(JPL-FNL)
M32	1-9-2013	Sun	1505	7963	DGW4 CIS Military NCS 1505 CW Ends message ... 958 RPT AL K. DGW4 C K	CW	(MPJ)
M32	1-9-2013	Sun	1613	5372	DE AMLI AMLI QTC 79661 19TT 779 = FM AMLI FOR OZEC	CW	(BCI)
M32	2-9-2013	Mon	1921	8072	HBWP HBWP HBWP QTC GJA SWIW SWIW SWIW 618 5T 2 2325 6 18= ZJA 41 5 =	CW	(BCI)
M32	3-9-2013	Tue	0507	5405	WEGI tfc	CW	(BCI)
M32	4-9-2013	Wed	1726	13128	Russian mil. Duplex radio check 8OKL DE IWBU	CW	(PPA)
M32	4-9-2013	Wed	2033	4030	YWF DE 3DYO ZJU ZKQ ZMQ QSU1 QYT RK 3DYO K 3DYO K ZFH ZIG ZPY QSU1 QYT4 K	CW	(BCI)
M32	5-9-2013		0708	13404	F52H ..... CIS MIL CW 05-set 0708 CLG/WKG .... - (BC)	CW	(BCI)
M32	5-9-2013		1336	10815	EDTN SM QSX 2/ SM DE EDTN EDTN SM EDTN	CW	(Cornel)
M32	5-9-2013		1805	5522	1WOO CIS mil. QSA check with NMYK	CW	(PPA)
M32	6-9-2013	Fri	0639	6968	VRIM tfc	CW	(BCI)
M32	6-9-2013	Fri	2013	5349	LTGY tfc	CW	(BCI)
M32	9-9-2013	Mon	0820	10683	XXX XXX WEGI WEGI 64806 NITROKSIL 6885 1701	CW	(JU)
M32	9-9-2013	Mon	0820	12688	XXX XXX WEGI WEGI 64806 NITROKSIL 6885 1701	CW	(JU)
M32	9-9-2013	Mon	0820	13443	XXX XXX WEGI WEGI 64806 NITROKSIL 6885 1701	CW	(JU)
M32	9-9-2013	Mon	0825	12832	XXX XXX RGT77 RGT77 18416 WSTREOeNYJ 7136 4337	CW	(JU)
M32	9-9-2013	Mon	0825	12832	38633 64806 NITROKSIL 6885 1701	CW	(JU)
M32	9-9-2013	Mon	0828	12832	XXX XXX WEGI WEGI 69000 OSTROWNOJ 0533 0254	CW	(JU)
M32	9-9-2013	Mon	0831	12832	XXX XXX RGT77 RGT77 14025 18416 WSTREOeNYJ 7136 4337	CW	(JU)
M32	9-9-2013	Mon	0835	12832	XXX XXX WEGI WEGI 15384 69000 OSTROWNOJ 0533 0254	CW	(JU)
M32	9-9-2013	Mon	1907	8072	SWIW clg MFGM and SD6E	CW	(PPA)
M32	10-9-2013	Tue	1830	7963	VCTQ DE DGW4	CW	(PPA)
M32	15-9-2013	Sun	1516	7512	BHVK Russian mil radio check with N1TP	CW	(PPA)
M32	16-9-2013	Mon	0408	5163	NPCC Russian mil duplex radio checks with AN4A and LVKR	CW	(PPA)
M32	17-9-2013	Tue	1925	3866	LDBO QTC 879 20 17 2320 879	CW	(PPA)
M32	20-9-2013	Fri	0424	4001	Russian mil c/s WILC	CW	(BCI)
M32	22-9-2013	Sun	0410	5163	K1VU radio check with DHSB	CW	(PPA)
M32	22-9-2013	Sun	0422	5205.5	FUCM radio check with WPYT	CW	(PPA)
M32	22-9-2013	Sun	0516	7977	ZR3T radio check with JVDN	CW	(PPA)
M32	24-9-2013	Tue	0031	3827	YZIM DE DQSP K R K	CW	(JPL-S)
M32	25-9-2013	Wed	1921	8072	AOBW 5FGs after 089 40 25 2315 089 = ZQM 922 = 83581 à.	CW	(PPA)
M32	26-9-2013		0343	5224	CPHZ DE GN2O K on same frequency.	CW	(JC5)
M32	26-9-2013		1350	7654.5	UUU RDL RDL RDL 22222 36068 26646 56727 .... k 1358z UUU XXX XXX then into T600	CW	(WP3)
M32	28-9-2013	Sat	2020	6844	Russian Mil. DE JNKW ZIR ZNF ZRA ZZB ZEI ZYM QSU1 QYT4 ZOL	CW	(PPA)
M32	28-9-2013	Sat	2039	5227	Russian Mil. 4VZJ DE BSOT QTC = BSOT 213 34 29 0030 213 = ZNX 578 =	CW	(PPA)
M32	29-9-2013	Sun	1531	6914	i.p. TF5H AR (ContÆd)	CW	(JPL-FNL)
M32	30-9-2013	Mon	1407	14376	Russian Mil. Msg for unid NQW1 832 .6 30 1800 832 657 = M M M M M Q-TVL Ch.A- M WPKKS Chi... AECh- JLNÍ BXTZI HZJTCh EMPMR K.	CW	(MPJ)
M32a	15-8-2013		1451	21438	RGV82 DE RCV QYT4 QSA4. RGX94 DE RCV nawip	CW	(IARUMS)
M32a	22-8-2013		0745	21439	RBE86 DE RCV QTC 612 32 20 1427 =	CW	(IARUMS)
M32a	22-8-2013		0754	21439	RFE70 DE RCV QYT4 QSA4 8310 QWH	CW	(IARUMS)

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M32a	10-9-2013	Tue	0912	14540	RJH25 DE RJE56	CW	(PPA)
M32a	15-9-2013	Sun	1216	12464	RMC99 Russian navy ship Evgeny Khorov 5F message to RIW on 14556	CW	(PPA)
M32a	16-9-2013	Mon	1836	5343	RGR77 DE RIT QSA?	CW	(PPA)
M32a	16-9-2013	Mon	1953	5089.75	Russian navy "RPT AL K K K RPT AL K OK AS K"	CW	(BCI)
M32a	20-9-2013	Fri	1753	10543	RCV clg RGV82	CW	(PPA)
M32a	22-9-2013	Sun	0503	7566	RGV82 DE RCV QSA?	CW	(PPA)
M32a	23-9-2013	Mon	1847	7801	RHQ33 5LG message to RCV	CW	(PPA)
M32a	24-9-2013	Tue	0031	7567	RFH70 DE RCV RPT K. RFH70 DE RCV QRU? K. RFH70 DE RCV QYT 4 Q.. K	CW	(JPL-S)
M32a	26-9-2013		0335	5224	RCV msg to RBE86	CW	(JC5)
M32a	26-9-2013		0341	5224	XXX XXX RJV RJV 73683 LEJKON 7068 9861 (RBE86 is a collective address for Weather Warnings in the Ionian Sea area)	CW	(JC5)
M32a	26-9-2013		0345	5224	XXX XXX RJV RJV 23978 ANTEKLAZA 8574 7518 (RJV is a collective for all ships in the Black Sea fleet)	CW	(JC5)
M32a	30-9-2013	Mon	0259	5202	=990700??0?????	CW	(JPL-RUS)
M42	1-9-2013	Sun	1105	16244	Russian Intel. Nr 163 on Link 51209 Types 38396 & 40444 - same 5FG message	FSK 200/1000	(MPJ)
M42	1-9-2013	Sun	1110	14784	Russian Intel. Nrs 70/163/249; Links 36882 51209 53140; Types 07145 40956 40956	FSK 200/1000	(MPJ)
M42	2-9-2013	Mon	0150	16320	Russian Intel.	FSK 200/1000	(Dan)
M42	3-9-2013	Tue	0150	16320	Russian Intel.	FSK 200/1000	(Dan)
M42	6-9-2013	Fri	0150	16320	Russian Intel.	FSK 200/1000	(Dan)
M42	9-9-2013	Mon	1829	6933	Russian diplo	Serdolik MFSK/40/1500	(PPA)
M42	10-9-2013	Tue	0150	16320	Russian Intel. Msgs on link id's 13356, 65535, 13374, 13360, 41018, 41019, 41135, 62529	FSK 200/1000	(Dan)
M42	10-9-2013	Tue	0803	11073	Russian diplo	Serdolik MFSK/40/1500	(PPA)
M42	11-9-2013	Wed	0150	16320	Russian Intel. Msgs on link id's 13366, 05475, 41022, 41471, 41018, 32125	FSK 200/1000	(Dan)
M42	12-9-2013		0150	16320	Russian Intel. Link ID 05172. Msg Type 13876 24577 02050 00000 00313 14273 04014 00000 12624	FSK 200/1000	(Dan)
M42	12-9-2013	Thu	1900	9239	Russian Intel. 8 02	FSK 200/500	(HFD)
M42	12-9-2013	Thu	1910	6904	Russian Intel 8 02	FSK 200/500	(HFD)
M42	12-9-2013	Thu	1920	5087	Russian Intel 8 02	FSK 200/500	(HFD)
M42	13-9-2013	Fri	0150	16320	Russian Intel. Link ID 04114. Msg Type 45584 57344 00000 00000 00020 07179 03468 00000 14382	FSK 200/1000	(Dan)
M42	13-9-2013	Fri	1707	18726	Russian Intel, Moscow	Baudot 75/500	(MCO)
M42	14-9-2013	Sat	1200	17441	Russian Intel. 6 55	FSK 200/500	(HFD)
M42	14-9-2013	Sat	1210	15845	FSK 200/500 6 55	USB	(HFD)
M42	14-9-2013	Sat	1213	15845	Russian Gov/Intel. 00000+++++++162)5761	Baudot 200/500	(AB)
M42	14-9-2013	Sat	1220	13506	Russian Intel. 6 55	FSK 200/500	(HFD)
M42	15-9-2013	Sun	1641	16283	Russian Intel.	FSK 200/1000	(MCO)
M42	16-9-2013	Mon	0150	16320	Russian Intel. Msgs on links 13844, 61503, 61543, 41018	FSK 200/1000	(Dan)
M42	17-9-2013	Tue	0150	16320	Russian Intel. Msgs on links 13884, 41016, 41018, 41023	FSK 200/1000	(Dan)
M42	17-9-2013	Tue	0150	16320	Russian Intel. Messages on links 29718, 13366, 41018, 58359, 41018, 41016	FSK 200/1000	(Dan)
M42	18-9-2013	Wed	0220	11083	Russian Intel. Msgs on links 45141, 32837, 61557, 25003, 47191, 45145	FSK 200/1000	(Dan)
M42	18-9-2013	Wed	2122	8040	Russian Intelligence. Link Id 45079 headers 21780 02008 60698 31219 53317 03188 14381 15200	FSK 200/1000	(LG2)
M42	18-9-2013	Wed	2319	10167	Russian Intelligence just going off air after sending block 59	FSK 200/1000	(LG2)
M42	19-9-2013		0150	16320	Msgs on links 13366, 41018, 61567	FSK 200/1000	(Dan)
M42	19-9-2013		0210	11083	Msgs on links 13366, 45141, 45057	FSK 200/1000	(Dan)
M42	19-9-2013		0300	14880	Msgs on link 41018	FSK 200/1000	(Dan)
M42	19-9-2013		0646	7813	Russian gov/intel. Mark after every 50th group	Baudot 50/500	(BCI)
M42	20-9-2013	Fri	0150	16320	Russian Intel.	FSK 200/1000	(Dan)

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M42	20-9-2013	Fri	0230	14880	Msgs on links 41342, 41018, 45114, 51752, 20836, 51358	FSK 200/1000	(Dan)
M42	20-9-2013	Fri	1729	11121	Russian Intelligence distorted op chat before tx then stopped with carrier idling	FSK 200/1000	(LG2)
M42	23-9-2013	Mon	0150	16320	Russian intel. Msgs on link 41023	FSK 200/1000	(Dan)
M42	23-9-2013	Mon	0230	14880	Russian intel. Msgs on links 61597, 32826, 32824, 20513, 41018	FSK 200/1000	(Dan)
M42	24-9-2013	Tue	0150	16320	Russian intel. Msgs on links 41018, 57400, 07582	FSK 200/1000	(Dan)
M42	24-9-2013	Tue	0230	14880	Russian intel. Msgs on links 41016, 41022, 41018	FSK 200/1000	(Dan)
M42	25-9-2013	Wed	0150	16320	Russian Intel.	FSK 200/1000	(Dan)
M42	25-9-2013	Wed	0230	14880	Russian Intel. Msgs on links 09744, 02072, 00592, 10816	FSK 200/1000	(Dan)
M42	26-9-2013		0150	16320	Russian Intel. Msgs on links 12592, 41018, 36045, 41072, 50790, 37285, 41076	FSK 200/1000	(Dan)
M42	26-9-2013		0230	14880	Russian Intel. Msgs on link 12544	FSK 200/1000	(Dan)
M42	27-9-2013	Fri	0150	16320	Russian Intel.	FSK 200/1000	(Dan)
M42	27-9-2013	Fri	0230	14880	Russian Intel. Msgs on links 12326, 12946, 41008, 52993, 40976, 00788	FSK 200/1000	(Dan)
M42	30-9-2013	Mon	0150	16320	Russian Intel. Msg on links 41016, 42046, 58366	FSK 200/1000	(Dan)
M42	30-9-2013	Mon	0230	14880	Russian Intel. Msg on links 13366, 41018, 25806, 41018, 61461, 41018, 41022, 16740, 32784	FSK 200/1000	(Dan)
M42a	4-9-2013	Wed	1812	11484	GRU hdfd net; only a short "3K"	CW	(PPA)
M45	3-9-2013	Tue	1802	4555	555 371 33 = 71532 //4955	USB	(HFD)
M45	3-9-2013	Tue	1802	4955	555 371 33 = 71532 //4555	USB	(HFD)
M51	26-9-2013		1331	10115.5	ààPQVWY NZGLO WKDTW SIGBQ LIQWL BT NR 11 S 26 15 40 CW 05 1985 BT WZSWZ TUZJX BPFJZ GRLTY ..... TCIFW CTYAE V TEST FRWN TOVBM 2064 V TEST S W 985 BT KXHCN HWKON RUHWV à..		(WP3)
M89	1-9-2013	Sun	1940	7602	v DKG6 DKG6 DKG6 de 3A7D 3A7D	CW	(FN)
M89	2-9-2013	Sun	1845	5230	v DKG6 DKG6 DKG6 de 3A7D 3A7D	CW	(FN)
M89	3-9-2013	Tue	0010	7602	V DKG6 DKG6 DKG6 DE 3A7D 3A7D	CW	(WP3)
M89	4-9-2013	Wed	1120	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //10640	CW	(JPL)
M89	4-9-2013	Wed	1120	10640	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	4-9-2013	Wed	1126	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	4-9-2013	Wed	1126	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	4-9-2013	Wed	1130	5588	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	4-9-2013	Wed	1132	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	4-9-2013	Wed	1132	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	4-9-2013	Wed	1937	7602	V DKG6 DKG6 DKG6 DE 3A7D 3A7D	CW	(PPA)
M89	4-9-2013	Wed	2211	4474	V RXP7 (x3) DE CZT2 (x2) (Cont'd)	CW	(JPL)
M89	4-9-2013	Wed	2213	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	4-9-2013	Wed	2216	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	4-9-2013	Wed	2216	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	4-9-2013	Wed	2220	4860	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	4-9-2013	Wed	2220	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //4860	CW	(JPL)
M89	4-9-2013	Wed	2226	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	4-9-2013	Wed	2226	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	5-9-2013	Thu	0955	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	5-9-2013	Thu	0955	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	5-9-2013	Thu	0957	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	0958	5588	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1012	14862	In tfc: AR RPT = 65 EEEE ... = NADD NADD.	CW	(JPL)
M89	5-9-2013	Thu	1100	5588	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1427	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1429	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1431	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1433	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1643	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1645	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)



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M89	5-9-2013	Thu	1647	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1649	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1801	5485	V YUQW YUQW YUQW DE ASDF ASDF	CW	(PPA)
M89	5-9-2013	Thu	1945	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1948	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	1950	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	5-9-2013	Thu	1950	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	5-9-2013	Thu	1952	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	5-9-2013	Thu	2246	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	5-9-2013	Thu	2246	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	5-9-2013	Thu	2249	8750	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	0808	8750	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	0816	10180	In tfc: RMKS 1820 TO 2953 2951 298...81 29	CW	(JPL)
M89	6-9-2013	Fri	1359	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	6-9-2013	Fri	1359	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	6-9-2013	Fri	1401	3300	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	1402	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	1513	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	1514	3300	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	1515	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	6-9-2013	Fri	1515	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	6-9-2013	Fri	1517	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	6-9-2013	Fri	1517	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	6-9-2013	Fri	1520	4860	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	6-9-2013	Fri	1520	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //4860	CW	(JPL)
M89	6-9-2013	Fri	1525	5555	In tfc: ?3 67 67 67 DTN DU.69 T7T3 T7TA T7	CW	(JPL)
M89	6-9-2013	Fri	2203	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	6-9-2013	Fri	2203	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	6-9-2013	Fri	2205	3300	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	6-9-2013	Fri	2206	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	7-9-2013	Sat	0805	7582	In tfc: NR EE NR U NR EE NR 1 /1001/EX EE	CW	(JPL)
M89	7-9-2013	Sat	0820	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //10640	CW	(JPL)
M89	7-9-2013	Sat	0820	10640	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	7-9-2013	Sat	1534	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	7-9-2013	Sat	1536	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	7-9-2013	Sat	1536	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	7-9-2013	Sat	1538	3300	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	7-9-2013	Sat	1540	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	7-9-2013	Sat	1541	6666	In tfc: = = = U65T TU5A 4U57 63D7 TA6T U34	CW	(JPL)
M89	8-9-2013	Sun	1015	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1016	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	8-9-2013	Sun	1016	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	8-9-2013	Sun	1017	5588	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1018	8750	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1020	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //10640	CW	(JPL)
M89	8-9-2013	Sun	1020	10640	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	8-9-2013	Sun	1257	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	8-9-2013	Sun	1257	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	8-9-2013	Sun	1300	3330	In tfc: RMKS 0165 TO 16.. UGT COMM SH.. 59	CW	(JPL)
M89	8-9-2013	Sun	1643	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1645	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1646	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1648	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	8-9-2013	Sun	1648	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	8-9-2013	Sun	1650	8750	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	1703	5555	In tfc: NR 13.. K. UNG V6363 5D6EN. NDU IM	CW	(JPL)

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M89	8-9-2013	Sun	2019	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	8-9-2013	Sun	2019	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	8-9-2013	Sun	2020	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //10640	CW	(JPL)
M89	8-9-2013	Sun	2020	10640	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	8-9-2013	Sun	2025	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	8-9-2013	Sun	2025	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	8-9-2013	Sun	2027	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	2029	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	8-9-2013	Sun	2029	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	8-9-2013	Sun	2030	8750	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	8-9-2013	Sun	2043	4474	V RXP7 (x3) DE CZT2 (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1054	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	9-9-2013	Mon	1054	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	9-9-2013	Mon	1054	5500	In tfc: /1925/7 U EEEEE. UVVV UGT COMM = 7	CW	(JPL)
M89	9-9-2013	Mon	1100	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1102	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	9-9-2013	Mon	1102	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	9-9-2013	Mon	1102	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1107	5555	In chat: GA 58 5 EEE VVV 1234 = (Horrible	CW	(JPL)
M89	9-9-2013	Mon	1400	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1402	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1402	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1404	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1420	4860	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	9-9-2013	Mon	1420	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //4860	CW	(JPL)
M89	9-9-2013	Mon	1811	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	9-9-2013	Mon	1811	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	9-9-2013	Mon	1813	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1815	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1817	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1819	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	1820	4860	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	9-9-2013	Mon	1820	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //4860	CW	(JPL)
M89	9-9-2013	Mon	2039	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	9-9-2013	Mon	2039	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	9-9-2013	Mon	2041	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	2043	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	2044	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	9-9-2013	Mon	2045	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	0144	7582	V 7NPE (x3) DE QV5B (x2) (Cont'd) //8110	CW	(JPL)
M89	10-9-2013	Tue	0144	8110	V 7NPE (x3) DE QV5B (x2) (Cont'd) //7582	CW	(JPL)
M89	10-9-2013	Tue	0148	11321	In chat: NNU5 6UTD UD46 NT5N (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1254	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	10-9-2013	Tue	1254	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	10-9-2013	Tue	1255	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	10-9-2013	Tue	1255	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	10-9-2013	Tue	1256	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1257	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1258	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1618	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1620	4860	VVV (x3) Q2M DE NYZ (x2) QSA? K //6840	CW	(JPL)
M89	10-9-2013	Tue	1620	6840	VVV (x3) Q2M DE NYZ (x2) QSA? K //4860	CW	(JPL)
M89	10-9-2013	Tue	1625	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	10-9-2013	Tue	1625	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	10-9-2013	Tue	1626	3330	In tfc: D535 TN37 TD57 D4D5 DU7U 7TUT (Con	CW	(JPL)
M89	10-9-2013	Tue	1631	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)

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M89	10-9-2013	Tue	1631	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	10-9-2013	Tue	1633	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1930	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	10-9-2013	Tue	1930	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	10-9-2013	Tue	1932	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1934	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1936	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	10-9-2013	Tue	1936	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	10-9-2013	Tue	1937	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	10-9-2013	Tue	1938	5555	In chat: TTU7 576A 54DU 76TA 6474 6457 6T4	CW	(JPL)
M89	12-9-2013	Thu	1038	14778	In tfc: = A3T4 = A3T4 = UUUT BT 4TD5 5DNA	CW	(JPL)
M89	14-9-2013	Sat	2233	5485	v yuqw yuqw yuqw de asdf asdf	CW	(WP3)
M89	14-9-2013	Sat	2253	5230	v dkg6 dkg6 dkg6 de 3a7d 3a7d	CW	(WP3)
M89	23-9-2013	Mon	1154	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1158	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	23-9-2013	Mon	1158	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	23-9-2013	Mon	1200	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1201	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1213	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	23-9-2013	Mon	1213	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	23-9-2013	Mon	1213	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	23-9-2013	Mon	1220	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5)	CW	(JPL)
M89	23-9-2013	Mon	1220	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //10640	CW	(JPL)
M89	23-9-2013	Mon	1220	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5)	CW	(JPL)
M89	23-9-2013	Mon	1220	10640	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	23-9-2013	Mon	1237	10376	VV FBRY DE 8JUJ K (see N&O 192)	CW	(JPL)
M89	23-9-2013	Mon	1340	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1341	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	23-9-2013	Mon	1341	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	23-9-2013	Mon	1343	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1501	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	23-9-2013	Mon	1501	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	23-9-2013	Mon	1502	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1502	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	23-9-2013	Mon	1503	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	23-9-2013	Mon	1519	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	23-9-2013	Mon	1519	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	23-9-2013	Mon	1548	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1550	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1630	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	23-9-2013	Mon	1630	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	23-9-2013	Mon	1941	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	23-9-2013	Mon	1941	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	23-9-2013	Mon	1943	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	1946	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	23-9-2013	Mon	2017	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	2018	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	23-9-2013	Mon	2018	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	23-9-2013	Mon	2019	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	23-9-2013	Mon	2019	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	23-9-2013	Mon	2020	4860	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	23-9-2013	Mon	2020	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //4860	CW	(JPL)
M89	23-9-2013	Mon	2025	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	2025	5555	In tfc: MSG CK MSG CK TOSG CY .GCY AA (see N&O 192)	CW	(JPL)
M89	23-9-2013	Mon	2030	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	2350	5588	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
M89	23-9-2013	Mon	2351	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd)	CW	(JPL)
M89	23-9-2013	Mon	2358	7582	V 7NPE (x3) DE QV5B (x2) (Cont'd) //8110	CW	(JPL)
M89	23-9-2013	Mon	2358	8110	V 7NPE (x3) DE QV5B (x2) (Cont'd) //7582	CW	(JPL)
M89	24-9-2013	Tue	0040	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	24-9-2013	Tue	0040	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	24-9-2013	Tue	1111	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	24-9-2013	Tue	1237	10376	VV GNN. DE 8JUJ K (see N&O 192)	CW	(JPL)
M89	24-9-2013	Tue	1345	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	24-9-2013	Tue	1345	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	24-9-2013	Tue	1500	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	24-9-2013	Tue	1500	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	24-9-2013	Tue	1946	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	26-9-2013	Thu	1842	7602	v DKG6 DKG6 DKG6 de 3A7D 3A7D	CW	(FN)
M89	26-9-2013	Thu	1920	6840	vvv Q2M Q2M Q2M de NYZ NYZ VVV K	CW	(FN)
M89	28-9-2013	Sat	0930	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	0935	8750	V YUQW (x3) DE ASDF (x2) (Cont'd) //10210	CW	(JPL)
M89	28-9-2013	Sat	0935	10210	V YUQW (x3) DE ASDF (x2) (Cont'd) //8750	CW	(JPL)
M89	28-9-2013	Sat	0940	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	28-9-2013	Sat	0940	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	28-9-2013	Sat	0943	5588	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	1220	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //10640	CW	(JPL)
M89	28-9-2013	Sat	1220	10640	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	28-9-2013	Sat	1225	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd) III BT D754 AR K	CW	(JPL)
M89	28-9-2013	Sat	1231	10376	8JUJ in chat: .... DE IKRE OK QSA 1 QSA? K R HR WK	CW	(JPL)
M89	28-9-2013	Sat	1246	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	28-9-2013	Sat	1246	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	28-9-2013	Sat	1249	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	1250	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	28-9-2013	Sat	1250	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	28-9-2013	Sat	1518	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	1519	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	28-9-2013	Sat	1519	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	28-9-2013	Sat	1520	4860	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	28-9-2013	Sat	1520	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	1520	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //4860	CW	(JPL)
M89	28-9-2013	Sat	1643	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	28-9-2013	Sat	1643	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	28-9-2013	Sat	1702	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	28-9-2013	Sat	1702	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	28-9-2013	Sat	2003	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	2004	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	2005	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	28-9-2013	Sat	2005	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	28-9-2013	Sat	2017	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	28-9-2013	Sat	2017	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	28-9-2013	Sat	2020	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5)	CW	(JPL)
M89	28-9-2013	Sat	2320	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //10640	CW	(JPL)
M89	28-9-2013	Sat	2320	10640	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	28-9-2013	Sat	2340	8750	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	28-9-2013	Sat	2354	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	28-9-2013	Sat	2354	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	29-9-2013	Sun	1202	3330	In tfc UGT COMM msg 165 AR K	CW	(JPL)
M89	29-9-2013	Sun	1206	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	29-9-2013	Sun	1206	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	29-9-2013	Sun	1209	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	1212	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)

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M89	29-9-2013	Sun	1212	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	29-9-2013	Sun	1215	5555	In tfc: 7U43 5NUD 7NT6 A435 T3DN 56U7 A456 (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	1220	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //10640	CW	(JPL)
M89	29-9-2013	Sun	1220	10640	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	29-9-2013	Sun	1225	10376	In chat: R 7KPZ DE ..R0 R QSA 1 QSA ? K (see N&O 19	CW	(JPL)
M89	29-9-2013	Sun	1657	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	1658	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	1659	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	1701	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	29-9-2013	Sun	1701	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5230	CW	(JPL)
M89	29-9-2013	Sun	1735	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	29-9-2013	Sun	1735	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	29-9-2013	Sun	2236	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	29-9-2013	Sun	2236	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	29-9-2013	Sun	2239	5230	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	29-9-2013	Sun	2239	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	29-9-2013	Sun	2241	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	2320	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //10640	CW	(JPL)
M89	29-9-2013	Sun	2320	10640	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	29-9-2013	Sun	2325	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	29-9-2013	Sun	2325	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	29-9-2013	Sun	2327	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd)	CW	(JPL)
M89	29-9-2013	Sun	2335	8750	V YUQW (x3) DE ASDF (x2) (Cont'd) //10210	CW	(JPL)
M89	29-9-2013	Sun	2335	10210	V YUQW (x3) DE ASDF (x2) (Cont'd) //8750	CW	(JPL)
M89	30-9-2013	Mon	0233	10210	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	0236	7582	V 7NPE (x3) DE QV5B (x2) (Cont'd) //8110	CW	(JPL)
M89	30-9-2013	Mon	0236	8110	V 7NPE (x3) DE QV5B (x2) (Cont'd) //7582	CW	(JPL)
M89	30-9-2013	Mon	0831	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	0835	8750	V YUQW (x3) DE ASDF (x2) (Cont'd) //10210	CW	(JPL)
M89	30-9-2013	Mon	0855	7582	V 7NPE (x3) DE QV5B (x2) (Cont'd) //8110	CW	(JPL)
M89	30-9-2013	Mon	0855	8110	V 7NPE (x3) DE QV5B (x2) (Cont'd) //7582	CW	(JPL)
M89	30-9-2013	Mon	0858	6773	V H2FL (x3) DE DRV8 (x2) (Cont'd) //8040	CW	(JPL)
M89	30-9-2013	Mon	0858	8040	V H2FL (x3) DE DRV8 (x2) (Cont'd) //6773	CW	(JPL)
M89	30-9-2013	Mon	0902	5588	MSG NR 1.9 CK 3. 34 30 .. = ..... (Cont'd) III = ..	CW	(JPL)
M89	30-9-2013	Mon	1248	5801	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //10180	CW	(JPL)
M89	30-9-2013	Mon	1248	10180	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //5801	CW	(JPL)
M89	30-9-2013	Mon	1250	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	1255	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	30-9-2013	Mon	1255	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	30-9-2013	Mon	1257	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	1259	3797	V H2FL (x3) DE DRV8 (x2) 3U33 6T3. D34. .5D5 3DTN 3	CW	(JPL)
M89	30-9-2013	Mon	1259	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	30-9-2013	Mon	1632	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	30-9-2013	Mon	1632	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	30-9-2013	Mon	1632	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	30-9-2013	Mon	1634	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	1710	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)
M89	30-9-2013	Mon	1710	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	30-9-2013	Mon	1714	6666	In chat/tfc: R EE NR .4/XT 114 RMKS 3032 TO .2.2 K	CW	(JPL)
M89	30-9-2013	Mon	1953	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	1954	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
M89	30-9-2013	Mon	1954	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	30-9-2013	Mon	1956	3797	V H2FL (x3) DE DRV8 (x2) (Cont'd) //4512	CW	(JPL)
M89	30-9-2013	Mon	1956	4512	V H2FL (x3) DE DRV8 (x2) (Cont'd) //3797	CW	(JPL)
M89	30-9-2013	Mon	1957	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	1958	4225	V 7NPE (x3) DE QV5B (x2) (Cont'd) //5500	CW	(JPL)

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M89	30-9-2013	Mon	1958	5500	V 7NPE (x3) DE QV5B (x2) (Cont'd) //4225	CW	(JPL)
M89	30-9-2013	Mon	2203	3330	V MW3D (x3) DE 2SLC (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	2204	7602	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //3642	CW	(JPL)
M89	30-9-2013	Mon	2207	4225	V 7NPE (x3) DE QV5B (x2) U346 UA45 465T 63U6 (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	2207	5485	V YUQW (x3) DE ASDF (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	2215	4474	V RXP7 (x3) DE CZT2 (x2) (Cont'd)	CW	(JPL)
M89	30-9-2013	Mon	2220	4860	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //6840	CW	(JPL)
M89	30-9-2013	Mon	2220	6840	VVV (x3) Q2M (x3) DE NYZ (x2) (R5) //4860	CW	(JPL)
M89	30-9-2013	Mon	2244	3642	V DKG6 (x3) DE 3A7D (x2) (Cont'd) //7602	CW	(JPL)
MX	1-9-2013	Sun	1349	6917	Beacon "L"	CW	(JPL-FNL)
MX	2-9-2013	Mon	2133	10871.7	Beacon "D" Odessa/Sevastopol	CW	(MPJ)
MX	2-9-2013	Mon	2133	10871.9	Beacon "S" Severomorsk	CW	(MPJ)
MX	2-9-2013	Mon	2133	10872	Beacon "C" Moscow	CW	(MPJ)
MX	5-9-2013		1715	6917.5	BEacon "L" St.Petersburg	CW	(PPA)
MX	6-9-2013	Fri	1517	16331.7	Beacon "D" Odessa/Sevastopol	CW	(MPJ)
MX	6-9-2013	Fri	1518	16331.9	Beacon "S" Severomorsk	CW	(MPJ)
MX	6-9-2013	Fri	1519	16332	Beacon "C" Moscow	CW	(MPJ)
MX	8-9-2013	Sun	1700	13527	Beacon "P"	CW	(PLdn)
MX	9-9-2013	Mon	1841	6928	Beacon "V"	CW	(PPA)
MX	11-9-2013	Wed	0700	20047.7	Beacon "D"	CW	(LG2)
MX	11-9-2013	Wed	2248	5156.8	Beacon "L" St Petersburg	CW	(LG2)
MX	13-9-2013	Fri	2146	11256	Beacon "L"	CW	(LG2)
MX	14-9-2013	Sat	1428	6917.5	Beacon "L"	CW	(AB)
MX	14-9-2013	Sat	1428	8494.9	Beacon "S"	CW	(AB)
MX	14-9-2013	Sat	1428	8495	Beacon "C"	CW	(AB)
MX	14-9-2013	Sat	1428	8497.8	Beacon "L"	CW	(AB)
MX	14-9-2013	Sat	1428	10871.9	Beacon "S"	CW	(AB)
MX	14-9-2013	Sat	1428	10872	Beacon "C"	CW	(AB)
MX	14-9-2013	Sat	1428	13527.7	Beacon "D"	CW	(AB)
MX	14-9-2013	Sat	1428	13527.8	Beacon "P"	CW	(AB)
MX	14-9-2013	Sat	1428	16331.9	Beacon "S"	CW	(AB)
MX	14-9-2013	Sat	1428	16332	Beacon "C"	CW	(AB)
MX	14-9-2013	Sat	2306	5153.7	Beacon "D"	CW	(WP3)
MX	14-9-2013	Sat	2306	5153.9	Beacon "S"	CW	(WP3)
MX	14-9-2013	Sat	2321	4557.7	Beacon "D"	CW	(WP3)
MX	14-9-2013	Sat	2321	4557.9	Beacon "S"	CW	(WP3)
MX	14-9-2013	Sat	2323	4506	Beacon "V"	CW	(WP3)
MX	15-9-2013	Sun	1722	6917.5	Beacon "L"	CW	(AB)
MX	15-9-2013	Sun	1722	6928	Beacon "V"	CW	(AB)
MX	15-9-2013	Sun	1722	10871.7	Beacon "D"	CW	(AB)
MX	15-9-2013	Sun	1722	16331.7	Beacon "D"	CW	(AB)
MX	15-9-2013	Sun	2005	5156.8	Beacon "L"	CW	(AB)
MX	19-9-2013		2000	5153.7	Beacon "D" Sevastopol	CW	(WP3)
MX	19-9-2013		2000	5153.8	Beacon "P" Kaliningrad	CW	(WP3)
MX	19-9-2013		2000	5153.9	Beacon "S" Severomorsk	CW	(WP3)
MX	19-9-2013		2000	5156.8	Beacon "L" St. Petersburg	CW	(WP3)
MX	22-9-2013	Sun	0413	5156.8	Beacon "L" St.Petersburg	CW	(PPA)
MX	26-9-2013		1505	6917.5	Beacon "L" St. Petersburg	CW	(WP3)
MX	26-9-2013		1845	6017.5	Beacon "L"	CW	(AB)
MX	26-9-2013		1845	8497.8	Beacon "L"	CW	(AB)
MX	26-9-2013		2012	6944.4	Beacon "P" Kaliningrad	CW	(WP3)
MX	28-9-2013	Sat	1418	16332	Beacon "C" Moscow	CW	(SW)
MX	28-9-2013	Sat	1419	16331.9	Beacon "S" Sevoromorsk	CW	(SW)
MX	28-9-2013	Sat	2054	6917.5	Beacon "L" St Peterburg	CW	(MPJ)
MX	28-9-2013	Sat	2337	6928	Beacon "V"	CW	(JPL-FNL)
MX	29-9-2013	Sun	2035	5157	Beacon "L"	CW	(JPL-FNL)

enigma	date	day	UTC	frequency	remarks	mode	Ctrb
MX	29-9-2013	Sun	2037	10871.7	Beacon "D" Sevastopol	CW	(WP3)
MX	29-9-2013	Sun	2037	10871.9	Beacon "S" Severomorsk	CW	(WP3)
MX	29-9-2013	Sun	2037	10872	Beacon "C" Moscow	CW	(WP3)
MX	29-9-2013	Sun	2037	10872.2	Beacon "F" Vladivostok	CW	(WP3)
MX	29-9-2013	Sun	2037	10872.4	Beacon "M" Magadan	CW	(WP3)
RMv	20-9-2013	Fri	1802	4590	Russian Mil. Buben-86 ya Galera-83. Later also Gipnoz-24	USB	
RMv	20-9-2013	Fri	2030	3375	Russian Mil. Zvonok-16 ya Ramka-76 Rabotayem do chasu tridtsati, potom zakryvayemsysya (we work until one thirty, then close"	USB	(SSh)
RMv	22-9-2013	Sun	1628	7771	Russian Mil. Bunker-27, Skala-20	USB	
RMv	24-9-2013	Tue	2338	4090	Russian Mil. Shpala-22 wkg Pirat-42, Sinitsa-38, Osoka-63, Lipka-94, Uragan-13, Urozhaj-13, Potok-11, Tswet-80	USB	(GNI)
S--	16-9-2013	Mon	0630	10755	Russian numbers 1804. ....	USB	(BCI)
S06	5-9-2013		1900	5784	349 349 349 00000	AM	(GHn)
S06	5-9-2013	Thu	1900	5784	349 0	USB	(HFD)
S06	7-9-2013	Sat	1900	4967	319 0	USB	(HFD)
S06	7-9-2013	Sat	1900	4967	319 319 319 00000	AM	(GHn)
S06	7-9-2013	Sat	1935	4772	426 0	USB	(HFD)
S06	9-9-2013	Mon	1815	13475	036 0	USB	(HFD)
S06	9-9-2013	Mon	1900	5784		USB	(GHn)
S06	9-9-2013	Mon	1900	5784	349 0	USB	(HFD)
S06	9-9-2013	Mon	1915	11060	036 0	USB	(HFD)
S06	11-9-2013	Wed	1900	5784	349 349 349 00000	AM	(AB)
S06	14-9-2013	Sat	1605	7472	764 0	USB	(HFD)
S06	16-9-2013	Mon	1905	5127	349 0	USB	(HFD)
S06	18-9-2013	Wed	1620	16327	11200 etc	USB	(BCI)
S06	18-9-2013	Wed	1935	4772	426 938 41 = 69447	USB	(HFD)
S06	18-9-2013	Wed	1935	4772	426 938 41 ...	USB	(Gwr)
S06	19-9-2013	Thu	1900	5784	349 0	USB	(HFD)
S06	21-9-2013	Sat	1900	4967	319 0	USB	(HFD)
S06	21-9-2013	Sat	1900	6894	857 0	USB	(HFD)
S06	21-9-2013	Sat	1935	4772	426 0	USB	(HFD)
S06	21-9-2013	Sat	2000	4019	319 0	USB	(HFD)
S06	21-9-2013	Sat	2000	5912	857 0	USB	(HFD)
S06	23-9-2013	Mon	1900	5784	349 0	USB	(HFD)
S06	25-9-2013	Wed	1930	5823	426 93? 40 = 69449	USB	(HFD)
S06	26-9-2013	Thu	1900	5784	349 0	USB	(HFD)
S06	28-9-2013	Sat	1930	5823	426	USB	(HFD)
S06s	14-8-2013		0840	10120	encrypted msgs	USB	(IARUMS)
S06s	2-9-2013	Mon	0830	9220	371 492 5 = 48834	USB	(HFD)
S06s	2-9-2013	Mon	0840	8270	371	USB	(HFD)
S06s	2-9-2013	Mon	0900	14580	872 514 6 = 21816	USB	(HFD)
S06s	2-9-2013	Mon	0910	13165	872	USB	(HFD)
S06s	2-9-2013	Mon	1200	9145	831 527 6 = 48115	USB	(HFD)
S06s	2-9-2013	Mon	1210	11460	831	USB	(HFD)
S06s	4-9-2013	Wed	0830	9255	471	USB	(KK2)
S06s	6-9-2013	Fri	0930	12140	516 473 8 = 61732	USB	(HFD)
S06s	6-9-2013	Fri	0940	13515	516	USB	(HFD)
S06s	7-9-2013	Sat	1200	10350	254 813 6 = 17031	USB	(HFD)
S06s	7-9-2013	Sat	1210	8520	254	USB	(HFD)
S06s	10-9-2013	Tue	0600	14080	438 962 5 = 68672	USB	(HFD)
S06s	10-9-2013	Tue	0610	12355	438	USB	(HFD)
S06s	10-9-2013	Tue	0700	5760	374 201 5 = 86507	USB	(HFD)
S06s	10-9-2013	Tue	0715	6930	374	USB	(HFD)
S06s	10-9-2013	Tue	0800	11635	352	USB	(HFD)
S06s	10-9-2013	Tue	0810	10420	352	USB	(HFD)

enigma	date	day	UTC	frequency	remarks	mode	Ctrlb
S06s	10-9-2013	Tue	1000	6410	893 261 5 = 52401	USB	(HFD)
S06s	10-9-2013	Tue	1010	7340	893	USB	(HFD)
S06s	10-9-2013	Tue	1500	6464	537 80# 6 = 25536	USB	(HFD)
S06s	10-9-2013	Tue	1510	7245	537	USB	(HFD)
S06s	11-9-2013	Wed	0820	7605	471 869 5 = 83746	USB	(HFD)
S06S	11-9-2013	Wed	0830	9255	471	USB	(HFD)
S06s	11-9-2013	Wed	0840	8712	328 461 5 = 78564	USB	(HFD)
S06s	11-9-2013	Wed	0850	9824	328	USB	(HFD)
S06s	12-9-2013	Thu	0900	5744	624 913 5 = 02231	USB	(HFD)
S06s	12-9-2013	Thu	0900	12952	167 402 5 = 48325	USB	(HFD)
S06s	12-9-2013	Thu	0910	6524	624	USB	(HFD)
S06s	12-9-2013	Thu	0910	13565	167	USB	(HFD)
S06s	12-9-2013	Thu	1200	12415	425 893 6 = 79268	USB	(HFD)
S06s	12-9-2013	Thu	1210	14212	425	USB	(HFD)
S06s	13-9-2013	Fri	0600	7795	196	USB	(HFD)
S06s	13-9-2013	Fri	0610	8695	196	USB	(HFD)
S06s	18-9-2013	Wed	1000	13365	729 483 5 = 83596	USB	(HFD)
S06s	18-9-2013	Wed	1010	14505	729	USB	(HFD)
S06s	26-9-2013	Thu	0930	8650	314 574 5 = 11???	USB	(HFD)
S11a	2-9-2013	Mon	1015	16112	470/34	USB	(HFD)
S11a	10-9-2013	Tue	0915	7317	484/00	USB	(HFD)
S11a	10-9-2013	Tue	1020	9960	426/00	USB	(HFD)
S21	9-9-2013	Mon	1842	4454	454 371 33 = 71532 //4854	USB	(HFD)
S21	9-9-2013	Mon	1842	4854	454 371 33 = 71532 //4454	USB	(HFD)
S28	30-9-2013	Mon	0301	4625	Buzzer	USB	(JPL-RUS)
SDN	12-8-2013		1636	21002.1	MFA Khartoum wkg Sudanese embassy Yemen - encrypted msgs	Pactor-1	(IARUMS)
SDN	12-8-2013		1637	21000	MFA Khartoum wkg Sudanese embassy Yemen û voice traffic	USB	(IARUMS)
SDN	6-9-2013	Fri	2116	10014.2	Tentative Sudan Diplo. 0011 sends ASCII file "+stno+ +ftype+ .bag +size+ 929"	Pactor	(BCI)
SDN	6-9-2013	Fri	2123	10014.2	Tentative Sudan Diplo. 1000 sends ASCII file "+stno+ +ftype+ .bag +size+ 321"	Pactor	(BCI)
UMv	17-9-2013	Tue	0419	4710	Ukrainian Mil. Laser-86 ya Liga-56	USB	
USB	30-9-2013	Mon	1200	9145	831 831 831 00000	S06s	(AB)
USB	30-9-2013	Mon	1210	11460	831 831 831 00000	S06s	(AB)
V07	8-9-2013	Sun	0300	16037	661 661 661 000	AM	(Dan)
V07	8-9-2013	Sun	0300	16037	661 661 661 000	USB	(Dan)
V07	15-9-2013	Sun	0300	16037	661 661 661 000	AM	(Dan)
V07	22-9-2013	Sun	0320	14637	661 661 661 1 254 67 94005 92277 83402 ... 29331 43374 93223 000 000	AM	(Dan)
V07	23-9-2013	Mon	0300	16037	661 661 661 1 254 67 94005 92277 83402 ... 29331 43374 93223 000 000	AM	(Token)
V07	23-9-2013	Mon	0340	12137	661 661 661 1 254 67 94005 92277 83402 ... 29331 43374 93223 000 000	AM	(Token)
V07	29-9-2013	Sun	0300	16037	661 661 661 000	USB	(Dan)
V07	29-9-2013	Sun	0320	14637	661 661 661 000	USB	(Dan)
V13	6-9-2013	Fri	0502	13750	New Star in progress	USB	(AB-HK)
V13	7-9-2013	Sat	0500	13750	New Star #3. Tune + coded messages	USB	(AB-HK)
V13	7-9-2013	Sat	0600	13750	New Star #3. Tune + coded messages	USB	(AB-HK)
V13	7-9-2013	Sat	0700	15388	New Star #4. Tune + coded messages	USB	(AB-HK)
V13	7-9-2013	Sat	0800	15388	New Star #4. Tune + coded messages	USB	(AB-HK)
V13	12-9-2013	Thu	1200	13750	heard 30min	USB	(HFD)
V13	13-9-2013	Fri	0702	15388	New Star i.p.	USB	(AB-HK)
VC01	1-9-2013	Sun	1340	4726.5	Chinese Robot	LSB	(Token)
VC01	1-9-2013	Sun	1340	5892	Chinese Robot	LSB	(Token)
X06	5-9-2013		1050	19511	Mazielka. Sequence 882, 815, 913, 848, 997 & 952Hz	USB	(MCO)
XPA	3-9-2013	Tue	1900	11576	08042 00001 00000 10140	MFSK	(Dan)



enigma	date	day	UTC	frequency	remarks	mode	Ctrlb
XPA	3-9-2013	Tue	1920	10476	sync 542 000 Message 088442 001 00000 10140	MFSK-20/10Bd/USB	(MPJ)
XPA	3-9-2013	Tue	1920	10476	8042 00001 22000 10140	MFSK	(Dan)
XPA	3-9-2013	Tue	1940	9276	Sync 542 000 message 08042 00001 0000 10140	MFSK-20/10Bd/USB	(MPJ)
XPA	3-9-2013	Tue	1940	9276	08042 00001 00000 10140	MFSK	(Dan)
XPA	7-9-2013	Sat	0600	10359	355 1 08642 00183 ????? ?????	MFSK	(Dan)
XPA	8-9-2013	Sun	1543	14448	03788 00001 00000 10140	MFSK	(MCO)
XPA	9-9-2013	Mon	1900	11576	0-msg	USB	(HFD)
XPA	9-9-2013	Mon	1920	10476	0-msg	USB	(HFD)
XPA	9-9-2013	Mon	1940	9276	0-msg	USB	(HFD)
XPA	11-9-2013	Wed	0600	10359	msg	USB	(HFD)
XPA	11-9-2013	Wed	0620	11559	msg	USB	(HFD)
XPA	11-9-2013	Wed	0640	13559	msg	USB	(HFD)
XPA	11-9-2013	Wed	1900	9267	542 542 542 1 08229 00289 64017 17447 64124 50875 84444 10287 74977 68971 21411 10321 (see N&O 192)	MFSK	(AB)
XPA	11-9-2013	Wed	1900	10476	542 542 542 1 08229 00289 64017 17447 64124 50875 84444 10287 74977 68971 21411 10321 (see N&O 192)	MFSK	(AB)
XPA	11-9-2013	Wed	1900	11576	542 542 542 1 08229 00289 64017 17447 64124 50875 84444 10287 74977 68971 21411 10321 (see N&O 192)	MFSK	(AB)
XPA	19-9-2013		1923	10475	542 542 542 000 07039 00001 00000 10100 ++++++	MFSK 20/10/520	(PPA)
XPA2	15-9-2013	Sun	1506	16147	06055 00710 34405 43070 32064 76440 00023 22013 46172 36865 86862 35837 61033 87801 03142	MFSK	(MCO)
XPA2	24-9-2013	Tue	1800	14538	msg	USB	(HFD)
XPA2	24-9-2013	Tue	1820	13538	msg	USB	(HFD)
XPA2	24-9-2013	Tue	1840	12138	msg	USB	(HFD)
XSL	5-9-2013		1822	8312.5	Japan Maritime Self-Defense Force	QPSK 1500	(PPA)
XSL	27-9-2013	Fri	1850	6417	Japan Maritime Self-Defense Force	QPSK 1500	(PPA)
XSL	28-9-2013	Sat	1738	8312.5	Japan Maritime Self-Defense Force	QPSK 1500	(PPA)

## **APPENDICES: M32, M32a, M32b, M32c transcripts**

### **M32**

**8368 kHz, 01-09, 1354 UTC:** c/s ISHX

**3807 kHz, 01-09, 1415 UTC**

RPT 28 K

HWDL R 379 K

N2LE DE HWDL K

QSA 3 QSA ? K

R K

**7963 kHz, 07-09, 1824 UTC**

4CTQ DE DGWA RK. JRKD DE DGWA RK. BS3T DE DGWA RK. SWQE DE DGWA RK

**7172 kHz, 08-09, 1315 UTC**

//A is station A

//B is station B

ZOH 1 ZGR ? K //A

RIR2 DE RGK42 AS 5 K //B

OK AS 4 K //A

RGK42 DE RIR2 ZNN ZOH 1 ZGR ? K //A

RIR2 DE RGK42 ZSF ZGR K

**3866 kHz, 08-09, 2033 UTC**

VVV  
 RPT AGN =  
 LDBO LDBO LBDO QTC 208 31 9 0030 208 =  
 397 =  
 HCFIB HSISX YXWIY UJHSK (Cont'd)

**7825 kHz, 08-09, 2103 UTC**

96YE DE 4OMD AR

**6722 kHz, 08-09, 2106 UTC**

R K  
 YTW9 DE XSPE K  
 R K

**4471 kHz, 09-09, 2119 UTC**

3S1X DE A8J6 K  
 R K  
 JSVV DE A8J6 K  
 R K  
 WACC DE A8J6 K  
 R K  
 O5LU DE A8J6 K  
 R K

**10683//12688//13443 kHz, 09-09, 0820 UTC**

XXX XXX WEGI WEGI 64806 NITROKSIL 6885 1701

**12832 kHz, 09-09,**

0825 38633 64806 NITROKSIL 6885 1701  
 0825 XXX XXX RGT77 RGT77 18416 WSTREOeNYJ 7136 4337  
 0828 XXX XXX WEGI WEGI 69000 OSTROWNOJ 0533 0254  
 0831 XXX XXX RGT77 RGT77 14025 18416 WSTREOeNYJ 7136 4337  
 0835 XXX XXX WEGI WEGI 15384 69000 OSTROWNOJ 0533 0254

**8002.5 kHz, 10-09, 1900 UTC**

RIR2 working RGK42 sending slow single letters.

**5227 kHz, 28-09, 2039 UTC:**

4VZJ DE BSOT QTC = BSOT 213 34 29 0030 213 = ZNX 578 =

**6844 kHz, 28-09, 2020 UTC:**

DE JNKW ZIR ZNF ZRA ZZB ZEI ZYM QSU1 QYT4 ZOL

**M32a****8345 kHz, 02-09**

1800 RCV DE RIR96 QYT4 QLS  
 1802 RCV DE RIR96 QYT4 QSX 10984  
 1816 RCV DE RIR96 QYT4 QSX 10309  
 1825 RCV DE RIR96 QYT4 QSX 7748  
 1834 RIR96 OK QWH 12464  
 1838 RIT DE RGR77 QSA?  
 1839 RIT DE RGR77 QSA3  
 1854 RIT DE RGR77 QYT9 QSX 5115 OK?  
 1905 RGR77 OK QYT9 QSX 7640

7574 kHz, 03-09, 0034 UTC: rgt77 rgt77 548 = rzsfo qepwl nvjüv tjoin üoujz ... = k  
 8345 kHz, 03-09, 0844 UTC: RAL46: Navy Tanker Vyazma. rit de ral46 ok qru k

**12464 kHz, 03-09**

0602 RAL48: Navy Tug Nikolay Chiker. rit de ral48 707 21 3 1003 707 = sml for rjh74 rjh45 = 03061 99581 10027 41598 71404  
10134 40172 52008 70222 87500 22200 00136 20000 3//// 4//// 5//// 6//// 03017 = + ral48 k  
0815 riw de rcrc qrr3 sk  
0846 RIR96: Navy LS Azov (151). rmp de rir96 qsa? k  
0858 rcv de rhq33 qsa1 k  
0914 riw de rla88 qsa? k rla88 512 31 3 1300 512 = sml for rcv = 11111 51350 39652 70283 ....  
1206 RAL48: Navy Tug Nikolay Chiker. rit de ral48 931 21 3 1605 931 = sml for rjh74 rjh45 = 03121 99581 10027 41498 42412  
10170 40177 54000 70111 84100 22200 00137 20402 3//// 4//// 5//// 6//// 03017 = + ral48 k  
1408 rcv de rfe70 qsa? k qyt4 qsx 8772 k  
1812 RAL48: Navy Tug Nikolay Chiker. rit de ral48 582 21 3 2202 582 = sml for rjh45 rjh74 = 03181 99581 10027 41598 32510  
10163 40171 54003 70110 83119 22200 00143 20302 3//// 4//// 5//// 6//// 03017 = + ral48 k

**8345 kHz, 04-09**

2322 VVV RIT DE RAL46 QSA? QTC  
2323 RAL46 715 33 5 0317 715 = SML =  
11111 96759 49524 92386 60202 70001 78750 69071 04495 47576  
57251 66546 31986 54696 31617 48901 30882 25326 06376 31547  
08330 69773 02336 89518 79952 01513 47040 95303 24852 88709  
89521 05031 = + RAL46  
2337 VVV RCV DE RFX56 QSA?  
2344 RJP99 272 34 5 0332 272 = FOR RMSZ RIR2 =  
11111 01753 18365 02333 93377 61123 28304 08040 59419 41619  
80328 14955 27480 61425 92490 27847 06037 99520 56656 63242  
72597 84214 93678 39618 37642 23082 73982 20083 79352 07182  
40510 05031 = + RJP99  
2350 VVV RIT DE RIR96 QSA? QTC  
2351 RIR96 525 16 5 0435 525 = FOR RJH45 RJE73 RMP = 05001 99518 70026 22282

**8345 kHz, 04-09**

0035 RAL46 sends long message, too faint to copy  
0055 RIT DE RGR77 QSA?  
0218 RCV DE RGV82 QSA?  
0219 RCV DE RGV82 QYT4 QSX 7648/7059  
0257 RIW DE RJT22 OK QYT4 QWH 8330  
0302 RCV DE RFE70 QYT4 QSX 10312  
0627 VVV RIT DE RAL46 QSA? QTC  
0644 VVV RIT DE RAL46 QSA? QTC  
0645 RAL46 491 15 4 1033 491 = FOR RJH74 RJH45 = 04061 99716 10271 22273  
1211 rit de ral48 121 21 4 1605 121 = sml for rjh45 rjh74 = 04121 99581 70027 41598 61609 10155 40114 57014 70211 86120  
22200 00139 20402 3//// 4//// 5//// 6//// 04017 = + ral48 k  
1220 rit de ral46 342 17 4 1615 342 = for rjh74 rjh45 = 04121 99716 10238 41397 82108 10100 40178 54002 70222 886//  
22263 20501 323// 41001 04016 = + ral46 k  
1748 VVV RCV DE RFH71 QSA?  
1803 rit de ral48 757 21 4 2202 757 = sml for rjh45 rjh74 = 04181 99581 70027 41598 61605 10151 40089 57012 70222 86130  
22200 00142 20401 3//// 4//// 5//// 6//// 04017 = + ral48 k  
1805 RAL48 757 21 4 2202 757 = SML FOR RJH45 RJH74 = 04181 99581 70027 22200  
1809 VVV RCV DE RBIZ QSA? QTC  
1810 rcv de rbiz 393 17 4 2200 393 = for rje73 rjh45 = 04181 99349 10358 41597 42305 10275 40089 57006 70200 84110  
22200 00278 20000 88000 04014 = + rbiz k  
1820 RIT DE RAL46 QSA3 QRV  
1823 RAL46 QSL 938  
1824 VVV RIT DE RJP99 QSA? QTC  
1825 RJP99 547 18 4 2214 547 = FOR RJH74 RJH45 = 04181 99700 10365 22211 (long zeros)  
1836 RJP99 911 28 4 2216 911 = FOR RJH74 RJH45 = XXXXX 04093 1545/ 17000 03601 88870  
20000 31149 20010 31110 20020 31096 20030 30876 20050 30402 22075 30344  
30100 30344 20?43 30288 00000 55555 10144 04025 = + RJP99  
1842 RIT DE RJP99 790 55 4 .... 790 = SML = 22222 .. 04053 RJP99 K  
1854 VVV RIT DE RAL46 QSA? QTC

1855 RIT DE RAL46 616 17 4 2232 514 = FOR RJH74 RJH45 = 04181 99714 10212 41397 82508 10100 40163 54001 70222 886//  
 22252 20401 323// 41204 04014 = + RAL46 K  
 2105 VVV RIT DE RIR96 QSA?  
 2110 RIT DE RJP99 745 17 5 0104 745 = FOR RJH74 RJH45 = 04211 99703 10368 42598 41607 ... OK QWK 12464 K  
 2147 VVV RIT DE RIR96 QSA? QTC  
 2148 RIR96 235 16 5 0135 235 = FOR RJH45 RJE73 RMP = 04211 99515 10022 22212

#### 12464 kHz, 04-09, 2121 UTC

RIT DE RJP99 745 17 5 0104 745 = FOR RJH74 RJH45 = 04211 99703 10368 42598 41607 10111 40209 52002 835// 22212 00109  
 20201 88000 80000 05014 = + RJP99 K

#### 8345 kHz, 05-09

0004 VVV RIT DE RAL46 QSA? QTC  
 0005 RAL46 546 67 5 0401 546 = SML =  
 11111 59580 65079 80679 60693 68547 95539 68686 03526 98652  
 70960 12244 60500 29322 60436 30292 93927 87603 84850 96694  
 10579 81473 33906 35810 55878 64915 66120 69881 61788 18011  
 65503 61706 43747 60544 88583 86608 56107 46865 81677 02110  
 12297 50042 78655 84191 75458 28350 36602 45337 31975 76319  
 35948 70131 47191 34260 03315 63194 02882 25089 40874 36549  
 69294 58566 20332 11024 35895 05065 = + RAL46  
 0013 RAL46 OK QTC  
 0014 RAL46 671 15 5 0406 671 = FOR RJH74 RJH45 = 05001 99709 10185 22252  
 0020 RCV DE RFE70 QSA2 (sets up QYT)  
 0022 VVV RCV DE RGV82 QSA?  
 0034 VVV RIT DE RJQ88 QSA? QTC  
 0036 RJQ88 515 18 5 0403 515 = FOR RJH74 RJH45 = 05001 99712 10360 22212  
 0050 VVV RIT DE RJP99 QSA? QTC  
 0051 RJP99 314 17 5 0405 314 = FOR RJH74 RJH45 = 05001 99704 10360 22272  
 0150 VVV RIT DE RJP99 QSA? QTC  
 0152 RJP99 545 30 5 0545 545 = FOR RJH74 RJH45 =  
 KKXX 05093 0040/ 17030 03559 88870 20000 31167 20010 31029  
 20020 31029 20030 31029 20050 30618 20075 30483 20100 30448  
 20150 30351 20178 30295 00000 55555 10180 05027 = + RJP99  
 0219 RIT DE RJP99 QSA2  
 0231 RIT DE RIR96 QYT4 QSX 8599  
 0420 VVV RIT DE RJP99 QSA? QTC  
 0421 RJP99 341 17 5 0705 341 = FOR RJH74 RJH45 = 05031 99704 10360 22272  
 0603 VVV RMP DE RIR96 QSA?  
 0630 VVV RIT DE RJP99 QSA? QTC  
 0631 RJP99 492 19 5 1011 492 = FOR RJH74 RJH45 = 05061 99709 10360 22281  
 0635 VVV RIT DE RAL46 QSA? QTC  
 0636 RAL46 347 17 5 1022 347 = FOR RJH74 RJH45 = 05061 99702 10162 22252

#### 12464 kHz, 05-09

1101 VVV RIT DE RIR96 QSA?  
 1102 RIT DE RIR96 QYT4 QSX 10432

#### 8345 kHz, 05-09

1513 VVV RIT DE RJP99 QSA? QTC  
 1514 RJP99 379 19 5 1903 379 = FOR RJH74 RJH45 = 05151 99721 10387 22213  
 1657 RIT DE RJP99 QSA2 QRV  
 1703 RJP99 NR 141 RPT 19 40 47  
 1704 RJP99 QSL 141  
 1715 RIT DE RAL46 QSA3 QRV  
 1721 RAL46 NR 141 RPT 7 52  
 1723 RAL46 QSL 141  
 1726 RCV DE RFH71 QYT4  
 1806 VVV RIT DE RJQ88 QSA? QTC  
 1807 RJQ88 626 18 5 2203 626 = FOR RJH74 RJH45 = 05181 99738 10384 22212

1816 VVV RIT DE RJP99 QSA? QTC  
 1817 RJP99 865 20 5 2209 865 = FOR RJH74 RJH45 = 05181 99727 10401 22212  
 1826 VVV RIT DE RAL48 QSA? QTC  
 1827 RAL48 382 21 5 2202 382 = SML FOR RJH45 RJH74 = 05181 99581 70027 22200  
 1830 VVV RIT DE RAL46 QSA? QTC  
 1831 RAL46 792 17 5 2222 792 = FOR RJH74 RJH45 = 05181 99690 10123 22252  
 1905 VVV RMP DE RIR96 QSA?  
 1906 RMP DE RIR96 QSA2 QYT4 QSX 10464 (continues to set up QYT4)  
 2128 RIR96 107 ?? 5 ???? 107 = FOR RJH74 RJH45 = 05211 99547 10056 22213  
 2144 RIT DE RAL46 QSA3 QRV  
 2150 RAL46 NR 266 RPT 5  
 RAL46 QSL 266

#### 8345 kHz, 06-09

1801 RIT DE RJQ88 800 18 6 2201 800 = FOR RJH74 RJH45 = 06181 99772 10419 41596 73109 10052 40036 54004 70222 874//  
 22212 00020 20202 80000 88000 06015 = + RJQ88 K  
 1810 RIT DE RAL48 978 21 6 2202 978 = SML FOR RJH45 RJH74 = 06181 99581 70027 41498 73011 10115 40135 52003  
 70222 8734/ 22200 00139 20403 3//// 4//// 5//// 6//// 06019 = + RAL48 K  
 1811 RCV DE RBIZ 312 17 6 2200 312 = FOR RJE73 RJH45 = 06181 99349 10358 41598 22306 10265 40119 52020 70200 82110  
 22200 10278 20000 88000 06014 = + RBIZ K  
 1812 RIT DE RJP99 512 17 6 2207 612 = FOR RJH74 RJH45 = 06181 99764 10506 42498 72110 10054 40071 52006 875// 22212  
 00054 20302 323// 40301 88000 80000 06016 = + RJP99 K  
 1822 RIT DE RAL46 861 21 6 2212 861 = SML = 11111 \_\_45 85655 79017 .....  
 1826 RIT DE RAL46 322 17 6 2220 322 = FOR RJH45 RJH74 = 06181 99663 10054 41397 82811 10110 40105 54001 70222 886//  
 22252 20402 322// 41305 06014 = + RAL46 K  
 1830 RIT DE RKI90 377 14 6 2210 377 = SML FOR RJD38 = 06181 99597 10240 41/98 00204 10170 40239 51000 70200 80000  
 22213 06011 = + RKI90 K

#### 8345 kHz, 07-09

1524 RIR96 113 14 7 1930 113 (faded)  
 1708 RLA88 996 52 7 2100 996 = SML = 11111 69262 ..... 603?? 070?? = + RLA88  
 1753 VVV RCV DE RGV82 QSL 422  
 1804 VVV RCV DE RBIZ QSA? QTC  
 1805 RBIZ ?02 17 7 2200 102 = FOR RJE73 RJH45 = 07181 99352 10354 22200  
 1806 VVV RIT DE RJP99 QSA? QTC  
 1807 RJP99 482 20 7 2200 482 = FOR RJH73 RJH45 = 07181 99798 10632 222??  
 1825 VVV RIT DE RJQ88 QSA? QTC  
 1826 RJQ88 589 18 7 2215 589 = FOR RJH74 RJH45 = 07181 99807 10477 22212  
 1832 VVV RIT DE RAL46 QSA? QTC  
 1833 RAL46 423 (stepped on by RAL88)  
 1835 RLA88 171 2 7 2232 171 = 22377 07001 = + RLA88  
 1836 RIT DE RAL46 423 15 7 2222 423 = FOR RJH74 RJH45 = 07181 99629 70015 (no speed sent)  
 1839 VVV RIT DE RAL48 QSA? QTC  
 1840 RAL48 547 21 7 2205 547 = SML FOR RJH45 RJH74 = 07181 99594 70019 22273  
 1902 VVV RIW DE RIR96 QSA? QTC  
 1922 VVV RIT DE RJQ88 QSA? QTC  
 1923 RJQ88 649 37 7 2315 649 = FOR RIT = 11111 46453 ..... 37137 07035 = + RJQ88  
 1958 RIT DE RAL46 QSA2 QRV  
 2001 RAL46 NR 324 RPT AL  
 2006 RAL46 NR 324 RPT 2 3 9  
 2012 RIT DE RJP99 QSA2 QRV  
 2018 RJP99 QSL 611  
 2246 VVV RCV DE RJP32 QSA?

#### 8345 kHz, 08-09

0008 VVV RIT DE RJQ88 QSA? QTC  
 0009 RJQ88 163 26 8 0357 163 = FOR RIT = 11111 00093 ..... 75430 08024 = + RJQ88 (26fg message)  
 0011 RJQ88 OK QTC  
 0012 RJQ88 931 18 8 0405 931 = FOR RJH74 RJH45 = 08001 99807 10477 22200  
 0023 VVV RIT DE RJP99 QSA? QTC

0024 RJP99 793 20 8 1605(sic) 793 = FOR RJH74 RJH45 = 08001 99805 10660 22212  
0029 RCV DE RMYZ RPT PBL  
0031 RMYZ QSL 423  
0035 RMYZ QSL 302

#### 8345 kHz, 08-09

1142 RJP99 365 42 8 1533 365 = FOR RMSZ RIR2 = 11111 04486 ..... 26475 08039 = + RJP99(42fg message)  
1155 VVV RIT DE RAL46 QSA? QTC  
1156 RAL46 155 68 8 1548 155 = SML = 11111 83658 ..... 59973 08066 = + RAL46(68fg message)  
1202 RAL46 OK QTC  
1203 RAL46 254 15 8 1601 254 = FOR RJH74 RJH45 = 08121 99605 70060 22253  
1204 VVV RIT DE RAL48 QSA? QTC  
1205 RAL48 577 21 8 1603 577 = SML FOR RJH45 RJH74 = 08121 99604 70059 22253  
1716 VVV RIT DE RJP99 QSA? QTC  
1717 RJP99 558 101 8 2114 558 = 11111 29972 ..... 23161 08100 = + RJP99(101fg message)  
1804 VVV RIT DE RJQ88 QSA? QTC  
1805 RJQ88 176 17 8 2202 176 = FOR RJH74 RJH45 = 08181 99807 10476 22200  
1807 VVV RIT DE RAL48 QSA? QTC  
1808 RAL48 311 21 8 2202 311 = SML FOR RJH45 RJH74 = 08181 99597 70073 22253  
1811 VVV RIT DE RJP99 QSA? QTC  
1812 RJP99 679 20 8 2206 679 = FOR RJH74 RJH45 = 08181 99818 10657 22261  
1828 VVV RIT DE RAL46 QSA? QTC  
1829 RAL46 276 17 8 2222 276 = FOR RJH74 RJH45 = 08181 99597 70075 22253  
1928 RIT DE RAL46 QSA3 QRV  
1932 RAL46 QSL 521  
2045 VVV RIW DE RIR96 QSA?  
2335 VVV RIT DE RJP99 QSA? QTC  
2336 RJP99 238 35 9 0333 238 = FOR RMSZ RIR2 = 11111 96169 ..... 89807 09032 = + RJP99 (35fg message)  
2342 VVV RIT DE RJQ88 QSA? QTC  
2343 RJQ88 258 28 9 0340 258 = FOR RIT = 11111 09301 ..... 98333 09026 = + RJQ88

#### 8345 kHz, 09-09

0014 VVV RIT DE RJQ88 QSA? QTC  
0015 RJQ88 665 18 9 0410 665 = FOR RJH45 RJH74 = 09001 99807 10476 22200  
0026 VVV RIT DE RJP99 QSA? QTC  
0027 RJP99 464 20 9 0415 464 = FOR RJH74 RJH45 = 09001 99838 10635 22261  
0624 RMWT ????? = FOR RJH74 RJH45 = 09061 99552 10192 22272  
1201 RAL46 message in progress, probably 11111  
1211 VVV RIT DE RMWT QSA? QTC  
1222 VVV RIT DE RAL48 QSA? QTC  
1223 RIT DE RAL46 OK QTC. RAL46 OK AS10  
1231 RAL46 271 17 9 1605 271 = FOR RJH74 RJH45 = 09121 99568 70102 22243  
1235 RAL48 253 21 9 1605 253 = SML FOR RJH45 RJH74 = 09121 99568 70102 22243  
1507 RJP99 856 22 9 1903 856 = FOR RJH74 RJH45 = 09151 99818 10593 22200  
1711 VVV RCV DE RLA88 QSA? QTC  
1712 VVV RIW DE RIR96 QSA2 QYT4 QSA?  
1800 VVV RIT DE RJQ88 QSA? QTC. RJQ88 531 17 9 2201 531 =  
1800 FOR RJH45 RJH74 = 09181 99807 10476 22200  
1813 VVV RIT DE RJP99 QSA? QTC  
1814 RJP99 273 22 9 2208 273 = FOR RJH74 RJH45 = 09181 99818 10593 22200  
1827 VVV RIT DE RAL46 QSA? QTC  
1828 RAL46 262 18 9 2222 262 = FOR RJH74 RJH45 = 09181 99558 70107 22243  
2052 RIW DE RIR96 QTC  
2053 RIR96 334 16 10 0100 334 = FOR RJH45 RJE73 RMP = 10211(sic) 99546 10198 22200  
2117 RIT DE RJP99 QTC  
2118 RJP99 736 19 10 0105 736 = FOR RJH74 RJH45 = 09211 99818 10593 22200  
2333 VVV RIT DE RJP99 QSA? QTC  
2334 RJP99 233 37 10 0332 233 = FOR RMSZ RIR2 = 11111 77525 .... 12156 10034 = + RJP99

**10543 kHz, 09-09**

RFH71 RHN85 RGV82 DE RCV QTC 689 170 9 0805 689 = RKT = MMMMMM YB..H S/UQG (Cont'd)

**7603 kHz, 09-09, 2102 UTC**

40011 00005 00006 50015 00006 00006 50014 00102 00006  
 40010 00001 00612 40011 00002 00612 40012 00005 00612  
 60016 00006 00612 60015 000102 00612 40012 =  
 RLO RLO RLO DE RIT RIT QTC 375 34 10 0057 375 =  
 RADIOPROGNOZ 10093 03003 30000 00001 00006 30010 etc.

**4580 kHz, 09-09, 2114 UTC**

498 66752 18594 05887 81041 30758 88275 59558  
 92665 80583 12297 81257 93316 51595 14129 90909  
 10029 = AR RJ170 K  
 RJ170 RPT  
 FOR RIT RJD99 K

**14664 kHz, 09-09, 0838 UTC**

RDL 538469 tstownoj 05330254 xxx xxx into Bee Sync 0x11414bebe952

**9145 kHz, 09-09, 2203 UTC**

5FGs ending with AR RIW K RIW MTK QRU K

**8345 kHz, 10-09**

0010 VVV RIT DE RJP99 QSA? QTC  
 0011 RJP99 581 20 10 0405 581 = FOR RJH74 RJH45 = 10001 99818 10593 22200  
 0014 VVV RIT DE RJQ88 QSA? QTC  
 0015 RJQ88 375 27 10 0400 375 = FOR RIT = 11111 61134 ..... 14942 10025 = + RJQ88  
 0018 RJQ88 515 17 10 0405 515 = FOR RJH45 RJH74 = 10001 99807 10476 22200  
 0026 VVV RIW DE RGV82 QSA? (sets up QYT4)

**8345 kHz, 11-09**

0602 RJQ88: NAVY TUG MB-56. RIT DE RJQ88 814 17 11 1001 814 = FOR RJH74 RJH45 = 11061 99807 10376 41697 71307  
 10007 40123 57035 70347 874// 22200 88818 80000 88000 11015 = + RJQ88 K  
 0606 RAL48: NAVY TUG NIKOLAY CHIKER. RIT DE RAL48 453 21 11 1002 453 = SML FOR RJH45 RJH74 = 11061 99507 70088  
 41598 63104 10146 40269 57006 70222 861/1 22200 00169 20000 3//// 4//// 5//// 6//// 11017 = + RAL48 K  
 0612 RJP99: NAVY SHIP GORIZONT. RIT DE RJP99 300 22 11 1006 300 = FOR RJH74 RJH45 = 11061 99811 10644 41498 70508  
 12018 40142 57004 70272 870// 22231 00002 20201 306// 40402 ICE 0/6/0 88000 80000 11019 = + RJP99 K  
 0620 RAL46: NAVY TANKER VYAZMA. RIT DE RAL46 371 15 11 1022 371 = FOR RJH74 RJH45 = 11061 99508 70088 41498 63104  
 10160 40280 54001 70211 86131 22200 2//// 11012 = + RAL46 K  
 1737 RCV DE RFH71 QSA?  
 1745 RCV DE RFH71 QYT4 QSX 7748  
 1804 VVV RIT DE RJQ88 QSA? QTC  
 1805 RJQ88 650 17 11 2202 650 = FOR RJH45 RJH74 = 11181 99807 10476 22200  
 1811 VVV RIT DE RJP99 QSA? QTC  
 1812 RJP99 949 22 11 2208 949 = FOR RJH74 RJH45 = 11181 99810 11634(SIC) 22261  
 1828 RJP99 239 32 11 2222 239 = FOR RMSZ RIR2 = 11111 77325 ..... 23316 11029 = + RJP99  
 1832 VVV RIT DE RAL46 QSA? QTC  
 1933 RAL46 196 15 11 2222 196 = FOR RJH74 RJH45 = 11181 99508 70088 22200  
 2108 VVV RIT DE RJP99 QSA? QTC  
 2109 RJP99 164 17 12 0104 164 = FOR RJH74 RJH45 = 11211 99808 10607 22252

**9192 kHz, 11-09, 2351 UTC**

RCV AS 2  
 RCV QTC? K  
 RHQ33 QTC 1 K  
 RCV QRV K  
 RHQ33 319 217 12 0210 319 = RKT = MMMMMM YB... (Cont'd)

**17615 kHz, 11-09, 0808 UTC**

RCV: HQ Black Sea Fleet Sevastopol. Nawip about gunnery exercise off Turkish coast to RIP90

**9145 kHz, 11-09, 2030 UTC**

RJP99 de RIW QTC K QSA? K

**9192 kHz, 11-09, 2050 UTC**

RCV: HQ Black Sea Fleet Sevastopol

**17615 kHz, 12-09**

1239 RCV: HQ Black Sea Fleet Sevastopol sending 5LGs to RBIZ and RGZ59 (Nikolay Filchenkov) QYT4 QSX 8393/12370K

1907 RCV: HQ Black Sea Fleet Sevastopol sending position reports to RLA88

**11000 kHz, 13-09, 1035 UTC**

RGV82 RGV82 DE RIW K for RGZ59 RIW K

**8345 kHz, 13-09, 1830 UTC**

Russian Navy Tanker Vyazma: DE RAL46 RAL46 QSA1 QRV K also called RIT RJH

**17615 kHz, 13-09**

1906 RCV: HQ Black Sea Fleet Sevastopol setting up MS-5 with RFE70, RHI99, RJP32, RLA88 and passing positions

1916 RFX56 RFX56 RFX56 DE RCV RCV QSA3 K

**9145 kHz, 13-09**

2113 RIW: Russian Navy HQ Moscow msg to LS Azov (RIR96) AW QYT4 GESA NO CM TA K

2115 RLA88 RLA88 RLA88 DE RIW RIW QSA? QTC K

**14556 kHz, 14-09, 0916 UTC**

RIW to RMC99:RIW QSU1 QWH 8764 QSX 12239 FM RMP K

**8764 kHz, 14-09, 0918 UTC**

GEOLOG YA WESTNIK PRIYOM

**12239 kHz, 14-09, 0937 UTC (ship)**

QSA2/3 QSB2 YA GEOLOG

"all right, next point of stay after intake of fuel"

RCJG DE RIW QTC K

RIW 463 38 14 1314 463=FM RCV=

WYPUSK 1452 NAWIP 0311901 KARTY 32101 32102 32103 32123 KARKINITSKIY ZALIW

ChWARTOWNYE BOOeKI WREMENNO WYSTAWLENY W 45/21/15 7S 032/03/32 4W 45/21/28

1S 032/03/32 4W

I 45/21 28/ 1S 032/03/50 1W

SISTEMA KOORDINAT SK/42 = AR RIW K

**17615 kHz, 15-09**

1940 RLA88 DE RCV RCV FM RJT22 QSU1 QDW 5 7 8 7 K

1941 RHI99 DE RCV K II II VVV RHI99 RHI99 RHI99 DE RCV RCV QSA? K

1949 Destroyer Smetlivy (RFH70) Sets up MS-5 traffic on 6303 khz

**9145 kHz, 16-09**

1725 Contacts AO Ivan Bubnov RCJG with NAWIPS from RCV for Mediterranean

1754 RGV82 DE RIW K RIW QYT4 QMO K

**8345 kHz, 16-09**

1705 VVV RIW DE RIR96 QSA?

1723 VVV RCV DE RFH70 QSA?

1729 VVV RCV DE RFH71 QSA?

1730 RCV DE RFH71 QYT4 QLS

1734 RFH71 OK QYT4 QWH 8322

1746 RCV DE RHI99 (faded)



1749 RIW DE RGV82 QSA? (sets up QYT4)  
 1814 VVV RIT DE RJP99 QSA? QTC  
 1816 RJP99 710 17 16 2203 710 = FOR RJH74 RJH45 = 16181 99799 10503 22200  
 1834 VVV RIT DE RGR77 QSA?  
 1840 RCV DE RFH70 QYT4 QSX 5637  
 1909 RIT DE RJP99 QRV  
 1915 RJP99 NR 566 RPT 3 4 31  
 1916 RJP99 QSL 566  
 1936 RIW DE RMC99 QSA3 QRV  
 1940 RMC99 QSL 805  
 2133 VVV RIW DE RCJG QSA? QTC  
 2134 RCJG 798 ?? 17 0125 798 = SML FOR RIT RMP RCV = 11111 04651 ..... 47604 17057 = + RCJG

#### 12464 kHz, 17-09

1802 RIW DE RMC99 144 16 17 2200 144 = SML FOR RJH45 RJH74 = 17181 99388 70101 48/97 83610 10210 40140 54010  
 70232 8//// 22243 00180 17012 = + RMC99  
 1807 AO IVAN BUBNOV RUS 1807 CW RIW DE RCJG 714 18 17 2205 714 = SML FOR RJH45 RJH74 = 17181 99299 70144 41598  
 20307 10250 40158 54000 70200 82100 22212 00230 20000 88000 17014 = + RCJG K

#### 8345 kHz, 17-09

1723 VVV RCV DE RFH71 QSA2  
 1724 RCV DE RFH71 QYT4 QSX 7763  
 1736 VVV RIW DE RGV82 QSA?  
 1739 RIW DE RGV82 QYT4 QWH 12370  
 1759 RIT DE RJP99 QSA2 QRV  
 1806 RJP99 NR 300 RPT 42  
 1807 RBIZ 421 17 17 2200 421 = ??? 17181 99349 10358 22200  
 1807 RJP99 QSL 300  
 1810 RJP99 610 18 17 2207 610 = FOR RJH74 RJH45 = 17181 99792 10531 22231  
 1811 RIT DE RJP99 610 18 17 2207 610 = FOR RJH74 RJH45 = 17181 99798 10531 41598 71908 10028 40227 57001 70272  
 875// 22231 00012 20201 ICE 0/4/0 17015 = + RJP999 K  
 1814 VVV RIT DE RJQ88 QSA? QTC 756 18 17 2203 756 = FOR RJH45 RJH74 = 17181 99799 10504 41/96 82210 .... 88//// 22200  
 00020 20101 88000 .... 17014 = + RJQ88 K  
 1815 RJQ88 756 18 17 2205 756 = FOR RJH45 RJH74 = 17181 99799 10504 22200  
 1826 RCV DE RFH70 QYT4 QSX 5482  
 1840 VVV RIT DE RJQ88 QSL 300  
 1858 VVV RIW DE RGV82 QSA?  
 1958 RIT DE RJP99 QSL 124  
 2019 VVV RIW DE RGV82 QSA?  
 2021 RGV82 QYT4 QSA?  
 2031 RGV82 OK QYT4 QWH 12374  
 2107 (MAJOR INTERFERENCE FROM DRM, ENDS 2302Z)  
 2343 VVV RIT DE RJP99 QSA? QTC  
 2344 RJP99 425 45 18 0337 425 = FOR RMSZ RIR2 = 11111 44279 ..... 009?8 18042 = + RJP99

#### 8345 kHz, 18-09

0000 RIW DE RGV82 QRU?  
 0002 RGV82 OK QYT4 QWH 12380  
 0005 VVV RIT DE RJQ88 QSA? QTC  
 0006 RJQ88 756 36 18 0351 756 = FOR RIT = 11111 80900 ..... 89981 18023 = + RJQ88  
 0014 VVV RIW DE RMC99 QSA? QTC  
 0015 RMC99 258 16 18 0401 258 = SML FOR RJH45 RJH74 = 18001 99375 70097 22243  
 0021 VVV RIT DE RJP99 QSA? QTC  
 0022 RJP99 269 15 18 0415 269 = FOR RJH74 RJH45 = 18001 99798 10574 22232  
 0035 VVV RIT DE RJQ88 QSA? QTC  
 0036 RJQ88 129 17 18 0422 129 = FOR RJH74 RJH45 = 18001 99799 10504 22200  
 0104 VVV RIW DE RMC99 QSA? QTC  
 0105 RMC99 647 30 18 0501 647 = SML FOR RCV RMP =  
 11111 51293 09250 48285 99217 04870 40622 34954 56842 74311  
 97676 17151 27890 77419 46978 99895 58163 88279 11710 98028

91087 90289 61753 89315 48884 18025 = + RMC99  
0202 VVV RIW DE RMC99 QSA? QTC  
0203 RMC99 633 35 18 0601 633 = SML FOR RIT RCV RMP =  
11111 59792 57987 24756 85171 18283 04587 06287 36827 10719  
39424 56407 82314 89569 34210 89659 14012 32866 17209 91722  
07422 01500 05304 76237 52368 88245 02021 08917 52457 68087  
18030 = + RMC99  
0253 RCV DE RGZ59 QSA? (sets up QYT4)  
0309 VVV RIT DE RJP99 QSA? QTC  
0310 RJP99 936 17 18 0704 936 = FOR RJH74 RJH45 = 18031 99800 10580 22200  
0610 RIT DE RJY96 QSA3  
0611 VVV RIW DE RCJG QSA? QTC  
0611 RJP99 180 21 18 1005 180 = FOR RJH74 RJH45 = 18061 99800 10580 22200

#### 8345 kHz, 19-09

0004 RMC99 246 16 19 0401 246 = SML FOR RJH45 RJH74 = 19001 99359 70049 22233  
0011 RCJG 923 18 19 0400 923 = SML FOR ??? = 19001 99342 70105 22213  
0109 RMYZ 43551 OBER 3479 0770  
0135 RMYZ 73783 ORDYNIC 2584 9334  
0206 RMC99 621 35 19 0601 621 = SML FOR RCV RIT RMP =  
11111 16598 48234 78179 64648 05486 18691 30428 47090 18054  
55541 63589 62??? 61023 75093 24514 06943 29032 06530 52540  
75002 56236 75147 03459 96840 31417 11701 11578 56947 03758  
19030 = + RMC99  
0420 VVV RCV DE RJT22  
0422 VVV RCV DE RMYZ QSA3  
0434 RCV DE RFH71 QSA2  
0611 VVV RIT DE RJP99 QSA? QTC  
0613 RBIZ NAVY SHIP AMUR PM-138: RCV DE RBIZ 550 17 19 1000 550 = FOR RJE73 RJH45 = 19061 99349 10358 41598 62306  
10261 40098 52003 .... 88000 19014 = + RBIZ K  
0645 VVV RIT DE RGR35 QSA?  
2057 RCV DE RFH70  
2058 RCV DE RFH70 QYT4 QSX 4222  
2213 VVV RCV DE RCJG QSA2 QRV  
2219 RCJG RPT PBL  
2220 RCJG QSL 193  
2227 VVV RCV DE RCJG QSA? QTC  
2228 RCJG 632 82 20 0215 632 = SML FOR RCV RIW = 91241 51665 ..... 45574 20078 = + RCJG  
2249 VVV RCV DE RFH71 QSA?  
2250 RCV DE RFH71 QSA2 QYT4 QSX 5372  
2336 VVV RIT DE RJP99 QSA? QTC  
2337 RJP99 546 50 20 0332 546 = FOR RMSZ RIR2 = 11111 26992 ..... 71717 20027 = + RJP99  
2344 VVV RIW DE RGV82 QSA?  
2348 RGV82 QYT4 QSX 8678

#### 12414 kHz, 19-09, 1016 UTC:

RGV82 tfc to riw after coord. on 12464/9145

#### 12464 kHz, 19-09

0605 RMC99 NAVY EVGENY KHOROV: RIW DE RMC99 185 16 19 1000 185 = SML FOR RJH45 RJH74 = 19061 99355 70038 41/98  
32406 10220 40150 54000 70200 8//// 22200 00190 19012 = + RMC99 K  
0608 RCJG AO IVAN BUBNOV: RIW DE RCJG 215 18 19 1005 215 = SML FOR RJH45 RJH74 = 19061 99351 70096 41498 20109  
10200 40139 56020 70110 82200 22213 00230 20504 88000 19014 = + RCJG K  
1004 RGR35 NAVY VA KULAKOV (626): RIW DE RGR35 QYT9 QSX 10540 QWH 10894 FM RAA K - QWH 8402 K  
1015 RGV82 NAVY: RIW DE RGV82 QYT4 QWH 12414 K

#### 8402 kHz, 19-09, 1011 UTC:

RGR35 Navy VA Kulakov (626): tfc to riw after coord. on 9145/12464

**18952 kHz, 19-09, 1020 UTC:**

RGV82 tfc to riw after coord. on 12464/9145

**8345 kHz, 20-09**

0005 VVV RCV DE RCJG QSA? QTC  
0006 RCJG 420 18 20 0400 420 = SML FOR RJH45 RJE73 = 20001 99351 70055 22223  
0010 RCJG OK QRV  
0011 RCJG OK QSU1 FM RJT22  
0013 VVV RIW DE RMC99 QSA? QTC  
0014 RMC99 244 16 20 0401 244 = SML FOR RJH45 RJE73 = 20001 99355 70038 22200  
0040 VVV RCV DE RLA88 QSA?  
0046 VVV RCV DE RCJG QSA? QTC  
0048 RCJG 546 16 20 0430 546 = SML =  
79328 40621 87979 91810 24340 79115 26110 62266 99013 41668  
409?? 41107 91664 21414 20014 = + RCJG  
0102 VVV RIW DE RMC99 QSA? QTC  
0103 RMC99 632 33 20 0501 632 = SML FOR RCV RIT RMP =  
11111 46086 32151 43249 80037 42588 96815 28816 92506 07092  
25666 68949 27535 61480 53407 59132 60015 02172 15065 74241  
85914 60424 78703 98245 34974 06285 32564 35226 20028 = + RMC99  
0107 VVV RIT DE RJQ88 QSA? QTC  
0238 VVV RCV DE RFH70 QSA?  
0240 RCV DE RFH70 QYT4 QSX 7345  
0430 VVV RIT DE RJP99 QSA? QTC  
0438 RJP99 391 17 (faded)  
0611 VVV RCV DE RCJG QSA? QTC  
0612 RCJG 893 18 20 1005 893 = SML FOR RJH45 RJE73 = 20061 99362 70035 22223

**9145 kHz, 20-09**

0723 Setting up MS-5 traffic with RGV82 RFH70 RFX56  
0842 Setting up MS-5 on 8310 khz with RIW  
0911 RFX56 DE RIW RIW QTC 1 55E2T 9ETE= IDML FM RJT22 FOR RJP32 K  
0921 RIR35 DE RIW QYT4 QWH1 6240 N O Q M C K  
0944 RLA88 DE RIW RIW QSA? K followed by MS-5 set up  
1131 RIW RIW DE RCJG RPT K

**12464 kHz, 22-09, 0903 UTC:**

RCJG: BORIS CHILIKIN CLASS TANKER "IVAN BUBNOV" PASSING MSG "179 53 22 1255 179 = SML FOR RCV RIW = 83756 74665 ...  
22T49 = AR RCJG K"

**7801 kHz, 23-09**

1847 UTC: RHQ33 5LG message to RCV

**7307 kHz, 23-09**

1017 RGR35: Udaloy class destroyer "Vice Admiral Kulakov" wkg RIT

**11155 kHz, 23-09**

0743 RIT: RUSSIAN NAVY NORTHERN FLEET HQ WKG RGR35 UDALOY CLASS DESTROYER "VICE ADMIRAL KULAKOV", QYT9 QSX  
13468, NO JOY EVEN AFTER SEVERAL QLS ATTEMPTS(USE HIGHER FREQUENCY), THEN DECIDES FOR A LOWER FREQUENCY  
AND MANAGE TO SET UP A LINK WITH RGR35 ON 7307. LATER CALLING RJY96 FOR QSA? AND PASSING FLASH MESSAGE  
TO COLLECTIVE RLO  
1229 RIT: RUSSIAN NAVY NORTHERN FLEET CLG RJQ88 AND RCQ47 FOR QSA?

**6973 kHz, 25-09**

2100 RIT: HQ Severomorsk. rlo rlo rlo de rit rit qtc 135 34 26 0057 135 = radioprognoz = 26093 02101 30000 00001 00006  
40099 00002 00004 .....  
2115 RIT: HQ Severomorsk. rlo rlo rlo de rit rit qtc 258 28 26 0113 258 = MMMMM DLVOT MAYFS ORPIT NEGOT ORPIT NEGOT  
ORPIT NEGOT DLVAV PRITU DYWAS chSÖTX DYFÖM UTTÖS DLQXL BDZXB FDUSX chTÖYC UKEIT QUKGT LFCYU UKEMT  
DQTÖS JCZFY WASIM LOEIU WYPWU =

**5224 kHz, 26-09,**

0335 RCV msg to RBE86

0341 XXX XXX RJV RJV 73683 LEJKON 7068 9861 (RBE86 is a collective address for Weather Warnings in the Ionian Sea area)

0345 XXX XXX RJV RJV 23978 ANTEKLAZA 8574 7518 (RJV is a collective for all ships in the Black Sea fleet)

**12464 kHz, 26-09**

0746 RCV DE RHN85 QSA? K

1215 RCV DE RBIZ 144 16 26 1600 144 = FOR RJE73 RJH45 = 26121 99351 10345 41987 .....26014 = + RBIZ K

1234 RCV DE RGV82 OK QYT4 QCM K

1241 RCV DE RFE70 QSA? K

**4619.5 kHz, 27-09, 0345 UTC: RJD99 DE RAS82 QTC****10796 kHz, 28-09, 0900 UTC**

RJE56 COLCOR 33 69320 K

RCRE RPT NR 156 69320 K

RJE56 COLCOR 54 28053 K

RCRE RPT NR 156 28053 K

RJE56 CK

RCRE RK

RCRE DE RJEH6 K

RJE56 DE RCRE K

RJE56 QRR 3 QDW 10676 K

**9146 kHz, 28-09, 0909 UTC: RIW R K****7423 kHz, 28-09, 1633 UTC:**

11111 45367 89076 12345 87654 0.876 13542 .8679 46875

84563 86757 24354 08876 68574 08978 67584 15456 89876

43526 00002 34526 67543 98765 24678 07543 11119 53786

28027 = RLO RLO RLO DE RIT RIT QTC 639 28 28 2031 639 =

11111 45367 89076 12345 87654 09876 13542 08679 46875 84563

**12464 kHz, 28-09**

0837 VVV RCV DE RCJG QSA? QTC

0838 RCJG 257 55 28 1230 257 = SML FOR RCV RIW = 98926 40908 ..... 75700 28051 = + RCJG

1352 RCJG 572 35 28 1745 572 = SML = 22579 38808 ..... 03627 28033 = + RCJG

**8345 kHz, 28-09**

1638 RIT DE RJQ88 QSA?

1639 RIT DE RJQ88 QSL 611

1811 VVV RIT DE RJQ88 QSA? QTC

1812 RJQ88 713 17 28 2205 713 = FOR RJH45 RJH74 = 28181 99704 10485 22252

1821 VVV RIT DE RJY96 QSA?

1822 RIT DE RJY96 QYR5 QSL 116 ?

1836 RIT DE RAL46 QSA? QTC

1837 RAL46 521 ?0 28 2225 521 = SML = 11111 86228 ..... 48576 28038 = + RAL46

**6989 kHz, 29-09**

1908 RAL2 radio check with RGH2 RMW2 RHQ2 RBL66

1908 RHQ2 radio check with RAL2

1909 RBL66 radio check with RAL2

1909 RGH2 radio check with RAL2

1909 RMW2 radio check with RAL2

**6994 kHz, 29-09, 1716 UTC: RIT DE RMXV**

**12464 kHz, 29-09, 1804 UTC**

AO IVAN BUBNOV: RCV DE RCJG 803 18 29 2200 803 = SML FOR RJH45 RJE73 = 29181 99358 10181 41998 01810 10250 40098 57010 70200 80000 22223 00250 20403 88000 29014 = + RCJG K

**8345 kHz, 30-09**

1807 RCV DE RMJA 319 17 29 2204 319 = SML FOR RJH45 RJE73 = 29181 99437 10324 41/98 92404 10152 40138 52002 70022 89// 22252 00175 2//// 29013 = + RMJA + RMJA K

1810 RIT DE RJQ88 519 17 29 2205 519 = FOR RJH45 RJH74= 29181 99707 10382 41594 /0609 10050 40250 52010 70322 22252 00050 20403 80000 88000 29014 = + RJQ88 K

1811 AMUR PM-138: RCV DE RBIZ 817 17 29 2200 817 = FOR RJE73 RJH45 = 29181 99349 10358 41598 40000 10245 40132 55007 70200 84110 22200 10250 20000 88000 29014 = + RBIZ K

**7801 kHz, 30-09, 1739 UTC:** RCV DE RHQ33 QSA? QTC

**5224 kHz, 20-09, 0256 UTC:** RMJA DE RCV QSA 1 QSX 5984 K

**4619 kHz, 30-09**

0203 VVV RJD56 DE RCQE QSA? QTC

0204 RCQE 246 30 30 0501 246 = SML FOR RIT = 11111 48619 ..... 40768 300?? = + RCQE

0230 VVV RJD56 DE RJP71 QSA? QTC

0231 RJP71 963 30 30 0510 963 = SML FOR RIT = 11111 ??819 ..... (faded)

0236 VVV RJD56 DE RJP71 QSA?

0238 RJP71 RPT 11111 41819 ..... 06867 30028 = + RJP71

**8345 kHz, 30-09**

1705 RCV DE RFH70 QSA?

1706 RFH70 QYT4 QWH 6308

1714 RJQ88 OK AS3

1721 RJQ88 OK QSU1 QSX 6208

1808 VVV RIT DE RJQ88 QSA? QTC

1809 RJQ88 294 18 30 2205 294 = FOR RJH45 RJH74 = 30181 99698 10350 22211

1818 VVV RCV DE RFH71 QSA?

1825 RCV DE RFH71 QYT4 QCM

1828 VVV RIW DE RMC99 QSA? QTC

1829 RMC99 446 16 30 2225 446 = SML FOR RJH45 RJE73 = 30181 99356 10161 22223

2115 RIT DE RJY96 QSA3

2118 RJY96 QYR5 QSA4

2120 RIT DE RJY96 QRU? RJY96 OK QRU

2134 RIT DE RJY96 QYT4 QSA?

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**M32b****8816 kHz, 04-09, 1248 UTC**

RJF94 RCB DE 44183 QTO 1223 QRD XLWF XLMW QRE 540 QAH 5800 QBD 4600 K QTH 6456 3429 QTR 1349 QAH 5800 QBD 3800 K QTH 6117 3700 QTR 1447 QAL XLWF 1530 QAH 5800 QBD 2900 K QQM XLWF 1528 SK

**13975 kHz, 19-09, 0805 UTC**

RAL2: Russian Naval Air wkg RDU2, RHW2, RFH2

**7861 kHz, 30-09**

1705 RAL2 radio check with RHW2 QSA? ZNN

1709 RHW2 radio check with RAL2

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## M32c

### 8162 kHz, 02-09, 1922

"W" markers

### M32c 9075 kHz, 04-09

0040 REA4 = 03240 99900 02150 27627 52660 42606 10227 20122 72102 84100 92470 = REA4

0140 REA4 = 04010 99900 02150 20069 82460 62102 10150 20100 70122 83510 91777 = REA4

### 8162 kHz, 10-09

0604 ATIU DE 4ASU QSA 4 K. 4ASU QRV K

0605 4ASU = 239 063 256 C? K

0717 ATIU DE 4ASU QSA2. 4ASU QRV. 4ASU RPT

0719 4ASU = 839 454 119 676 124 C?

"W" markers at 0600, 0620, 0720, 0740, 0800, 0820, 0840 UTC

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## CONTRIBUTORS

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AB-EST	Ary Boender via remote rx Estonia	JPL-FNL	JPL via remote rx Finland
AB-HK	Ary Boender via remote rx Hong Kong	JPL-RUS	JPL via remote rx Russia
BCI	Bruno Casula, Italy	JPL-S	JPL via GlobalTuners Sweden
Cornel	Cornel, Netherlands	JU	Jay Updike, W. Europe
Dan	Daniel, Argentina	KC2TTK	KC2TTK, NY, USA
dec	Decibels	KK2	Kristian K, Central Europe
DK8OK	DK8OK	LG2	Les G, UK
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